APPENDIX 3

1998 IOWA UNIFIED WATERSHED ASSESSMENT, RESTORATION PRIORITIES, AND RESTORATION ACTION STRATEGIES

INTRODUCTION

The Iowa Unified Watershed Assessment, Restoration Priorities, and Restoration Action Strategy (hereafter called assessment and priorities) has been developed in response to the Clean Water Action Plan announced by the Clinton Administration on February 19, 1998. The Iowa assessment and priorities plan was developed in accordance with the Final Framework for Unified Watershed Assessment, Restoration Priorities, and Restoration Action Strategies, dated June 9, 1998. These documents are available for viewing on the Internet at either of the following two addresses:
http://www.epa.gov/cleanwater/uwafinal or
http://www.nhq.nrcs.usda.gov/cleanwater/uwafinal.

The framework guidance has the following key actions:

A. State environmental agency leaders and Natural Resources Conservation Service (NRCS) state conservationists jointly convene a process to develop by October 1, 1998, unified watershed assessments which identify:

   * Watersheds needing restoration, i.e., those not meeting clean water and natural resource goals.

   * Watersheds needing preventative action to sustain water quality and aquatic ecosystems.

B. States working with federal agencies and others define watershed restoration priorities, by October 1, 1998, for those watersheds in most need of restoration in the first two years. Core elements of these priorities include:

   * Identifying the highest priority watersheds to be addressed through the year 2000.

   * Coordinating with existing restoration priorities, including those established by Section 303(d) of the Clean Water Act.

   * Developing a preliminary schedule for the remaining watersheds.

C. A draft document of watershed assessments and priorities will be available for public review on August 1, 1998. The documents will be developed from existing information (due to the short time frame) and will consist of a series of watershed maps, lists, and a short description of the rationale and process. Watershed assessments will be conducted at the eight digit hydrologic unit scale.

IOWA'S WATERSHED ASSESSMENT

Iowa's assessment is based on the evaluation of 56 watersheds. Map 1 displays these watershed boundaries and their eight digit hydrologic unit number. The area of these

watersheds generally ranges from 100 to over 2500 square miles. The map is the basemap for other maps.

All maps in this report are geographic information system (GIS) based. Some of the data are not "geo-referenced" to a specific location. County-wide data or sample data has been proportioned for each hydrologic unit area. Hence, the data should be viewed with these limitations in mind.

A series of 15 maps numbered 2 to 16 display data by eight digit hydrologic unit codes (watersheds). These data are taken from a variety of natural resource databases, including Iowa's water quality standards, Water Quality in Iowa during 1994 and 1995 (305b Assessment Report), and the Iowa Nonpoint Source Management Program (Management Plan) dated 1992. A set of data tables support the maps.

Maps 2 and 3 show the rivers/streams and the lakes/wetlands designated for specific uses in Iowa's water quality standards. These standards designate the state's major surface waters for one or more of the following use categories: Class A, body contact water recreation such as swimming; Class B, fish and aquatic life; and Class C, a source of public water supply. The lakes and wetlands map includes two lake groupings, one consisting of 118 lakes which meet established state criteria as "significant publicly owned lakes (SPOLs)", and the second consisting of those lakes not meeting the SPOL criteria.

In addition to the rivers/streams and the lakes/wetlands maps, two other maps showing important Iowa water resources are provided. Map 4 identifies those Iowa public water supplies which rely on surface waters (either reservoirs or rivers) as a water source, and Map 5 shows the location of wells used by Iowa public water supplies.

Maps 6 through 12 indicate the level to which Iowa's designated surface waters are considered to support their designated uses based on the 305b assessments. Categories of use support used include: fully supported, fully supported but threatened, partially supported, and not supported. The data tables display by hydrologic unit code the designated use for rivers and streams by miles of stream length and the designated use of lakes and wetlands by number of water bodies and by surface water area (in acres). The level to which the water bodies in each eight digit watershed support their designated uses is found in the data tables.

Watershed Assessment and Categorization. The Unified Watershed Assessment Framework Guidance indicates an outcome of the state's watershed assessments should be to categorize the assessed watersheds as follows:

Category 1	Watersheds in Need of Restoration
Category II	Watersheds Meeting Goals, Including Those Needing Action to Sustain Water Quality
Category III	Watersheds with Pristine or Sensitive Aquatic System Conditions on Lands Administered by Federal, State, and Tribal Governments
Category IV	Watersheds with Insufficient Data to Make an Assessment

The Framework Guidance calls for states to use a variety of information, including 305b Assessment Report results, the state 303d List of Impaired Waters, and other relevant data (such as intensity of crop and livestock production, other potential water quality threats such as sinkholes or agricultural drainage wells, etc.) in their categorizations efforts.

Other information Iowa considers relevant to its categorization of watersheds includes:

1. Maps 13 and 14 show the location of known sinkholes and agricultural drainage wells in Iowa. Sinkholes and agricultural drainage wells are considered threats to Iowa's groundwaters since they can serve as direct conduits for surface water contaminants to enter ground water.

2. Map 15 displays percent cropland by hydrologic unit code. Cropland is the major land use in Iowa comprising about 27 million acres or about 75 percent of Iowa's 36 million acres. Generally, about 90 percent of Iowa's cropland is used to grow corn or soybeans each year.

In 1997, producers planted 12.3 million acres of corn and 10.5 million acres of soybeans. Commercial fertilizer applied state-wide was 990 thousand tons of nitrogen and 299 thousand tons of phosphorus. The overwhelming majority of commercial nitrogen is applied to corn with lesser amounts applied to soybeans, pasture, and miscellaneous crops. Nitrogen is applied on 99% of all corn acres while 75% of those acres receive an application of phosphorus. On acres planted to soybeans, 16% received an application of nitrogen, while 23% of the acres received an application of phosphorus. It should be noted that where corn and soybeans are planted in rotation, extra phosphorus is often included with the corn fertilizer for the following soybean crop.

Ninety-nine percent of both the corn and soybean acreage received one or more applications of a herbicide. While 19% of all corn acres received an application of an insecticide, they are not typically applied to soybeans.

Map 16 displays percent pasture by HUC. Grazing of pastures provides a good portion of the feed for Iowa's 1.1 million beef cows and 300,000 dairy cows and other livestock.

Map 17 displays the percent of each HUC with sheet and rill erosion from cropland and pasture greater than twice the allowable limit. Excessive erosion damages the soil resource base and the erosion results in off-site sediment damage to road rights-of-way, culverts, bridges, and other public improvements. Sediment is also the largest water quality impairment to Iowa surface waters.

Map 18 displays the areas of Iowa which have been designated as "restricted atrazine application areas" by the Iowa Department of Agriculture and Land Stewardship due to concerns of atrazine entry to groundwaters in those areas. The designated areas include areas with sinkholes and agricultural drainage wells, as well as areas where groundwaters are considered to be highly vulnerable to contamination by chemical leaching. In these areas, atrazine use is limited to no more than 1.5 pounds per acre.

3. Map 20 indicates livestock animal unit density per square mile for each HUC. "Animal unit" as defined in Chapter 65 of the Iowa Administrative Code, means a unit of measurement used to determine the animal capacity of an

animal feeding operation, based upon the product of multiplying the number of animals in each species by a factor for each type of animal. The factors and sources of data for cattle, hogs, poultry, and sheep are indicated on the map. This map summarizes total animal unit density regardless of animal species or size of livestock operation.

4. On September 18, 1998, the Iowa DNR released for public review and comment a draft of the state's proposed 303d List of Impaired Waters. Upon completion of the public review process, DNR will revise the 303d list and submit it to EPA Region 7 for review and approval.

   Table 11 identifies the waters on Iowa's draft 303d list, including the 8-digit HUC each is located in, and Map 25 shows the location of these waters.

   As Iowa anticipates the waters included on the state's 303d list may change considerably as a result of the public comment and EPA review and approval processes, the state has determined it would be inappropriate to utilize the draft 303d list in developing Iowa's Uniform Watershed Assessment.

The Framework Guidance suggests an eight digit HUC watershed be placed in Category I if more than 25 percent of its waters do not meet water quality goals. Based only on the 305b assessment results, about 37 of Iowa's 56 HUC watersheds would fall within Category I, with the remainder generally falling in Category II. However, when other pertinent factors (such as the intensity of row crop production, the high livestock numbers, and other potential water quality threats) are considered, Iowa believes a more realistic categorization is to place all of Iowa's eight digit HUC watersheds into Category I.

IOWA'S WATERSHED PRIORITIES AND IMPLEMENTATION PROGRAM

Iowa's Nonpoint Source Pollution Control Program has emphasized locally led projects that are generally watershed based. The Management Plan allows for funding both agricultural and urban nonpoint source pollution concerns that are addressed by information and education projects, and projects that demonstrate best management practices.

A state level interagency group helps determine program and project priorities and coordinates state and federal programs to ensure that adequate funding and other resources are available to successfully implement water quality projects.

Iowa's program priorities are generally outlined in Iowa's current Nonpoint Source Management Plan, and are as follows:

1. Iowa's Nonpoint Source Management Plan identifies 118 publicly owned lakes and 25 coldwater streams as priority for protection and implementation. These surface waters are much smaller than the eight digit HUC. The lake watersheds generally range from 5,000 to 10,000 acres in size, and the coldwater streams average 10,000 acres.

2. Iowa's Nonpoint Source Management Plan allows other water bodies to be given priority for implementation of a control project if they meet specific criteria outlined in the plan. These criteria include:

* The water body (surface water or groundwater) must be publicly owned and be an important local, regional, or state water resource.

* Available information must show the water body is being impacted or threatened by pollution from controllable nonpoint sources.

* The project plan must show that implementing nonpoint controls will significantly reduce pollutant levels to the water body and doing so must provide important public benefits.

* Adequate financial and other resources must be available to implement the control project.

Although not specifically mentioned in Iowa's Management Plan, the above criteria will generally allow Class B (CW) streams, the wellhead areas around Iowa's public water supply wells, and the watershed areas in proximity to the intakes of Iowa's public water supplies which rely on surface water sources to be considered priorities for implementation of nonpoint pollution controls.

Iowa's Section 319 Program utilizes the Management Plan in the selection of water quality watershed projects. Other funding programs, while not bound by the Management Plan, nevertheless reflect the Management Plan when selecting projects or priority areas.

The USDA Environmental Quality Incentives Program (EQIP) (Map 21) has funded many of the priorities found in the Management Plan such as priority lakes and streams, areas around ADWs and sinkholes, and riparian areas. The USDA Conservation Reserve Program (CRP) now uses an Environmental Benefits Index to score lands offered for the program. Proposed areas for scoring the water quality priority area points are shown on Map 19 and reflect several Management Plan priorities. Sediment from agriculture is the primary pollutant in Iowa's waters and erosion control on cropland is a major work component in NRCS field offices. Special and River Corridor Projects (Map 22) addresses wetland restoration on floodplains and upland depressional areas where cropland is put under long-term easements through the Wetlands Reserve Program (WRP), Emergency Wetlands Reserve Program (EWRP), and other federal and private funds.

The Iowa Water Protection Fund (WPF) prioritization and selection process is similar to the Section 319 process and also reflects the Management Plan. Many of these water quality projects are jointly funded with support from Section 319 funds. However, WPF is not required to follow the Management Plan. The Iowa Publicly Owned Lakes Program provides financial incentives to producers for sediment control practices above selected publicly owned lakes.

In Iowa, implementation projects on surface waters have generally been much smaller than the eight digit HUC watersheds. As noted above, the emphasis given by the Management Plan to lake and coldwater stream projects has helped keep the size of implementation projects down. However, other factors have also played a role, including:

* To qualify for funding, project plans must show that implementation of proposed controls will have a positive water quality impact. This can best be done in small watersheds, since the problems can more readily be identified and dealt with, and public and producer support developed.

* Program realities also affect project size. The level of funding for state and federal programs does not allow large projects or projects longer than four or five years.

The typical Iowa project is 3,000 to 15,000 acres in watershed size and funded for three to five years with a total budget of $150,000 to $400,000.

The following maps display Iowa's current and recently completed projects:

Map 21	1998 EQIP Priority Areas
Map 22	Current Special and River Corridor Projects
Map 23	Current and Recently Completed Projects Funded by EPA Section 319 Funds, Iowa Water Protection Fund, Iowa Publicly Owned Lakes Program, and Other Sources

PRIORITY WATERSHEDS FOR 1999-2000

Iowa believes prioritization of eight digit watersheds has the following limitations:

1. The assessment of eight digit HUCs does not accurately reflect the condition of project-sized water resources statewide.

2. Iowa believes projects addressing the nonpoint source pollution problems of its significant publicly owned lakes, coldwater streams, public water supply wells, and public water supplies using surface water reservoirs and river intakes should be given high priority. The watersheds of these water bodies are generally much smaller than the eight digit HUC areas, and are nested within them.

3. The intensive nature and widespread distribution of Iowa agricultural activities including crop production and animal agriculture make it difficult to obtain adequate funding and other resources to carry out a successful project covering an entire eight digit HUC.

4. Local workgroups, under the leadership of soil and water conservation district commissioners, continue to identify local water resource issues for project action at a scale that is much smaller than the eight digit watersheds. Locally led projects have a successful track record dating back more than 20 years and are distributed throughout the state.

Despite the state's reservations about prioritizing on an 8-digit watershed basis, Iowa has prioritized its 56 Category I watersheds, as called for in the UWA Framework Guidance. These watersheds were prioritized considering a combination of factors, including:

- the percentage of each watershed's classified streams which were determined to be either partially supporting or not supporting their designated uses, using data from Iowa's current 305b Assessment Report;

- the number of significant publicly owned lake located in each watershed;

- the number of public water supply intakes located in each watershed;

- the number of public water supply wells located in each watershed;

- the number of sinkholes located in each watershed; and,
- the number of agricultural drainage wells located in each watershed.

For each of these factors, a numerical value was assigned to each watershed. These values were then added together and an overall watershed ranking system developed. The developed ranking system places 12 of Iowa's Category I Watersheds into Priority 1, 32 watersheds into Priority 2, and 12 watersheds into Priority 3. A listing of the watersheds and their respective priorities is given in Table 10, and Map 24 shows the priorities for all 56 watersheds.

These watersheds will be considered by Iowa in the selection of projects to be supported with any additional Section 319 funding which becomes available during FFY99 and FFY00. Projects which address the priorities identified in the Iowa Nonpoint Source Management Plan (see next section) and are located within Priority 1 HUCs will be given priority for Section 319 funding over similar projects located in lower priority HUCs. However, Iowa may deviate from the watershed priorities in selecting projects for funding, when such deviation is justified based upon the nature and severity of the water quality problems being addressed, the quality and potential for success of the project applications received, etc..

Iowa will continue to utilize the priorities listed in the Iowa Nonpoint Source Management Plan to guide its selection and development of water quality projects. These priorities include:

1. Lakes - The 118 significant publicly owned lakes currently listed.

2. Streams - The 25 coldwater streams currently listed.

3. Other waters from the following categories (that meet the four general project need criteria in the Management Plan).

    a. Municipal wells *

    b. Surface water supplies from surface reservoirs and river intakes *

    c. Groundwater protection projects addressing contamination by agricultural drainage wells and/or sinkholes

    d. Ongoing agricultural and urban NPS projects that are making significant progress in addressing nonpoint problems and can demonstrate a need to extend or expand the scope of the project

    e. Other water bodies (surface or groundwater) that are publicly owned and important locally

        * Public water supplies that can demonstrate a need for protection or improvement as a result of Source Water Assessment and Protection Programs or Wellhead Protection plans.

PRELIMINARY LONG-TERM SCHEDULE

Iowa does not anticipate that adequate funding will be available during the years 1999 and 2000 to fully implement needed controls to protect all the above noted priority water bodies. As such, Iowa's long-term implementation schedule will initially continue to focus on implementing needed control measures to protect these waters. As progress in addressing these priority waters is made, Iowa will modify its prioritization process and project development process to address other priority needs.

PARTICIPANTS IN THIS PROCESS AND PUBLIC REVIEW

In accordance with an agreement between NRCS and IDNR, Leroy Brown, NRCS State Conservationist, appointed a subcommittee for Unified Watershed Assessment at a meeting of the State Technical Committee on May 21, 1998. The subcommittee consisted of representatives from the following:

NRCS, Chairperson
Iowa Department of Natural Resources
Iowa Division of Soil Conservation
Iowa Environmental Council
Iowa State University Extension
Iowa Farm Bureau Federation
State FSA Committee

A working group of NRCS and DNR staff compiled information and maps for the Assessment and Priorities for review by the subcommittee on June 1, 1998, and July 13, 1998. An interim draft Assessment and Priorities Report was prepared by NRCS and DNR staff following the July 13, 1998, meeting.

The Interim Draft Assessment and Priorities Report was first presented by NRCS staff to the State Technical Committee, as well as the subcommittee, on July 22, 1998. It was recognized that there are concerns from some Iowa stakeholders with this report. Therefore, it was anticipated that numerous comments will be received during the comment period and that further refinement would be likely in the final report. All organizations represented on the State Technical Committee and subcommittee were invited to submit written comments on the draft document when it was mailed to them on August 1, 1998.

The draft Assessment and Priorities Report was available for public review and comment from August 1, 1998, through September 4, 1998. Copies of the document were available from both the Iowa DNR and the NRCS State Office in Des Moines. The document was also available in the internet during the public review period at the Iowa NRCS homepage and through the Iowa DNR homepage. Commenters were asked to provide written comments.

Four comment letters were received including: an Iowa government organization; a county conservation board; EPA RegionVII; and, the National Watershed Assessment Working Group. The Iowa Unified Watershed Assessment report was revised in response to these comments to include a prioritization of 8-digit watersheds.

Table 1 - (Map 2)
River and Stream Use Designations by 8-Digit HUC Basin

CU		BASIN NAME	CLASS_A_	CLASS_B_WW	CLASS_B_LR	CLASS_B_CW	CLASS_HQ_L
			MILES	*MILES*	*MILES*	*MILES*	*MILES*
7040008		South Fork Root River					
10240004		Nishnabotna River		15.3			
7020009		Blue Earth River			31.2		
7060001		Mississippi River	58.0	73.5	16.2	85.7	39.1
7060002		Upper Iowa River	94.2	148.3	23.9	152.3	60.7
7060003		Mississippi River	51.7	75.8	42.6	49.8	30.4
7060004		Turkey River	63.9	270.6	170.4	114.1	163.8
7060005		Mississippi River	47.7	67.9	77.9	23.9	16.5
7060006		Maquoketa River	121.2	272.9	346.7	24.1	18.7
7080101		Mississippi River	84.3	100.6	59.9		
7080102		Wapsipinicon River	111.7	206.9	202.1	4.8	4.8
7080103		Wapsipinicon River	95.5	128.6	92.2		
7080104		Mississippi River	69.7	89.4	89.2		
7080105		South Skunk River		112.9	175.8		
7080106		North Skunk River		20.6	133.0		
7080107		Skunk River	2.6	121.1	195.4		
7080201		Cedar River	77.1	180.3	51.3	17.6	7.4
7080202		Shell Rock	46.9	100.3	64.1		
7080203		Winnebago River	0.4	70.9	50.7		
7080204		West Fork Cedar River	0.9	54.8	171.9		
7080205		Cedar River	72.3	164.8	266.0		
7080206		Cedar River	85.6	112.1	147.1		
7080207		Iowa River	101.2	128.9	163.5		
7080208		Iowa River	150.7	158.9	221.5		
7080209		Iowa River	80.7	117.2	208.2		
7100002		Des Moines River	86.6	97.2	88.9		
7100003		East Fork Des Moines River	29.5	128.6	114.5		
7100004		Des Moines River	28.3	169.3	212.0		
7100005		Boone River	21.2	102.7	70.7		
7100006		North Raccoon River	176.5	205.5	299.1		
7100007		South Raccoon River	61.4	104.2	142.0		
7100008		Des Moines River	69.9	194.6	433.2		
7100009		Des Moines River	128.3	145.1	260.6		
7110001		Fox River			62.9		
7110002		Fablus River			18.3		

Table 1 - (Map 2)
River and Stream Use Designations by 8-Digit HUC Basin

CU		BASIN NAME	CLASS_A_	CLASS_B_WW	CLASS_B_LR	CLASS_B_CW	CLASS_HQ_L	CLASS
			MILES	*MILES*	*MILES*	*MILES*	*MILES*	*MI*
10170203		Big Sioux River	79.4	79.4	51.2			
10170204		Rock River		47.6	121.4			
10230001		Missouri River	39.3	74.8	59.4			
10230002		Floyd River		21.8	163.3			
10230003		Little Sioux River	41.1	227.9	292.5			
10230004		West Fork Little Sioux River		22.8	98.6			
10230005		Maple River		54.9	70.8			
10230006		Missouri River	32.9	39.4	55.9			
10230007		Boyer River		87.5	72.9			
10240001		Missouri River	20.2	20.2	60.4			
10240002		West Nishabotna River		109.9	209.0			
10240003		East Nishnabotna River		75.9	109.2			
10240005		Tarkio River			60.2			
10240009		West Nodaway River		64.4	49.5			
10240010		Nodaway River		31.3	42.5			
10240012		Platte River		6.6	84.7			
10240013		One Hundred and Two River		32.4	69.6			
10280101		Grand River		13.2	66.2			
10280102		Thompson River		32.5	170.5			
10280103		Medicine Creek			10.1			
10280201		Chariton River	14.9	50.0	231.5			

Water Quality Designations:

Class A - waters protected for primary contact recreation uses

Class B - waters protected for wildlife, aquatic life & secondary body contact uses

- Class B WW - significant resource warm waters
- Class B LR - limited resource warm waters
- Class B CW - cold water aquatic life waters
- Class HQ - high quality waters
- Class HQR - high quality resource waters
- Class B L W - lakes and wetlands

Table 2 (Map 3)
Designated Lakes and Wetlands by 8-Digit HUC Basin

CU	NAME	SPOL	SPOL_SIZE	NON-SPOL	NON-SPOL_SIZE
7040008	South Fork Root River				
10240004	Nishnabotna River				
7020009	Blue Earth River				
7060001	Mississippi River				
7060002	Upper Iowa River				
7060003	Mississippi River				
7060004	Turkey River	2	175	2	3
7060005	Mississippi River			2	375
7060006	Maquoketa River	2	59	1	2
7080101	Mississippi River	1	56	2	23
7080102	Wapsipinicon River	1	40	3	20
7080103	Wapsipinicon River			3	22
7080104	Mississippi River	1	18	2	11
7080105	South Skunk River	4	483	1	8
7080106	North Skunk River	5	893	4	447
7080107	Skunk River	2	486	5	190
7080201	Cedar River				
7080202	Shell Rock	1	316	2	6
7080203	Winnebago River	1	3684	4	41
7080204	West Fork Cedar River	1	100	3	18
7080205	Cedar River	5	623	7	54
7080206	Cedar River			2	231
7080207	Iowa River	4	384	4	28
7080208	Iowa River	5	1049	3	5029
7080209	Iowa River	2	133	4	6
7100002	Des Moines River	3	2039	1	15
7100003	East Fork Des Moines River	2	2419	2	45
7100004	Des Moines River	3	1098	3	5408
7100005	Boone River	2	302		
7100006	North Raccoon River	5	4557	7	372
7100007	South Raccoon River	3	183	1	1400
7100008	Des Moines River	7	1002	15	11186
7100009	Des Moines River	6	630	5	119
7110001	Fox River			1	110
7110002	Fabius River				
10170203	Big Sioux River	1	69	1	10
10170204	Rock River			3	27

Table 2 (Map 3)
Designated Lakes and Wetlands by 8-Digit HUC Basin

10230001	Missouri River	3	503			
10230002	Floyd River			4	17	
10230003	Little Sioux River	14	16078	7	241	
10230004	West Fork Little Sioux River			2	18	
10230005	Maple River	2	72	3	18	
10230006	Missouri River	4	1862	3	67	
10230007	Boyer River	4	92	1	20	
10240001	Missouri River			4	116	
10240002	West Nishabotna River	1	204	2	12	
10240003	East Nishnabotna River	4	302	4	15	
10240005	Tarkio River			1	7	
10240009	West Nodaway River	2	172	3	52	
10240010	Nodaway River	2	716	2	73	
10240012	Platte River	1	428	4	328	
10240013	One Hundred and Two River	3	138	1	25	
10280101	Grand River			6	219	
10280102	Thompson River	5	1520	2	30	
10280103	Medicine Creek					
10280201	Charlton River	1	89	7	11321	

SPOL - Lakes meeting criteria as "significant publicly owned lakes"
NON-SPOL - Lakes not meeting "significant publicly owned lakes" criteria

Size of lakes and wetlands given in acres.

7/30/98

Table 3 (Map 4)

Number of Surface Water Supply Intakes in Each 8-Digit HUC Basin

CU	BASIN NAME	COUNT
7040008	South Fork Root River	
10240004	Nishnabotna River	
7020009	Blue Earth River	
7060001	Mississippi River	
7060002	Upper Iowa River	
7060003	Mississippi River	
7060004	Turkey River	
7060005	Mississippi River	
7060006	Maquoketa River	
7080101	Mississippi River	1
7080102	Wapsipinicon River	
7080103	Wapsipinicon River	
7080104	Mississippi River	3
7080105	South Skunk River	
7080106	North Skunk River	2
7080107	Skunk River	4
7080201	Cedar River	
7080202	Shell Rock	
7080203	Winnebago River	1
7080204	West Fork Cedar River	
7080205	Cedar River	1
7080206	Cedar River	
7080207	Iowa River	
7080208	Iowa River	
7080209	Iowa River	2
7100002	Des Moines River	2
7100003	East Fork Des Moines River	
7100004	Des Moines River	1
7100005	Boone River	
7100006	North Raccoon River	2
7100007	South Raccoon River	1
7100008	Des Moines River	2
7100009	Des Moines River	6
7110001	Fox River	1
7110002	Fabius River	
10170203	Big Sioux River	
10170204	Rock River	1
10230001	Missouri River	
10230002	Floyd River	
10230003	Little Sioux River	6
10230004	West Fork Little Sioux River	
10230005	Maple River	
10230006	Missouri River	1
10230007	Boyer River	
10240001	Missouri River	1
10240002	West Nishabotna River	
10240003	East Nishnabotna River	
10240005	Tarkio River	

7/30/98

Table 3 (Map 4)

Number of Surface Water Supply Intakes in Each 8-Digit HUC Basin

CU		BASIN NAME	COUNT
10240009		West Nodaway River	4
10240010		Nodaway River	3
10240012		Platte River	5
10240013		One Hundred and Two River	4
10280101		Grand River	5
10280102		Thompson River	6
10280103		Medicine Creek	
10280201		Chariton River	6

7/30/98

Table 4 (Map 5)

Number of Public Water Supply Wells in Each 8-Digit HUC Basin

CU	BASIN NAME	COUNT
7040008	South Fork Root River	
10240004	Nishnabotna River	2
7020009	Blue Earth River	8
7060001	Mississippi River	15
7060002	Upper Iowa River	12
7060003	Mississippi River	28
7060004	Turkey River	55
7060005	Mississippi River	14
7060006	Maquoketa River	64
7080101	Mississippi River	77
7080102	Wapsipinicon River	43
7080103	Wapsipinicon River	34
7080104	Mississippi River	35
7080105	South Skunk River	123
7080106	North Skunk River	25
7080107	Skunk River	30
7080201	Cedar River	28
7080202	Shell Rock	27
7080203	Winnebago River	28
7080204	West Fork Cedar River	24
7080205	Cedar River	179
7080206	Cedar River	46
7080207	Iowa River	45
7080208	Iowa River	104
7080209	Iowa River	80
7100002	Des Moines River	27
7100003	East Fork Des Moines River	34
7100004	Des Moines River	75
7100005	Boone River	26
7100006	North Raccoon River	131
7100007	South Raccoon River	48
7100008	Des Moines River	61
7100009	Des Moines River	24
7110001	Fox River	2
7110002	Fabius River	
10170203	Big Sioux River	27
10170204	Rock River	43
10230001	Missouri River	46
10230002	Floyd River	90
10230003	Little Sioux River	94
10230004	West Fork Little Sioux River	29
10230005	Maple River	30
10230006	Missouri River	28
10230007	Boyer River	47
10240001	Missouri River	16
10240002	West Nishabotna River	113
10240003	East Nishnabotna River	90
10240005	Tarkio River	2

7/30/98

Table 4 (Map 5)

Number of Public Water Supply Wells in Each 8-Digit HUC Basin

CU	BASIN NAME	COUNT
10240009	West Nodaway River	24
10240010	Nodaway River	10
10240012	Platte River	2
10240013	One Hundred and Two River	5
10280101	Grand River	8
10280102	Thompson River	8
10280103	Medicine Creek	
10280201	Chariton River	1

Table 5 (Maps 6,7,8)

Stream Use Assessment by 8-Digit HUC Basin

CU		BASIN NAME	RIVFSMILES	RIVPSMILES	RIVNSMILES
7040008		South Fork Root River			
10240004		Nishnabotna River		5.5	
7020009		Blue Earth River	6.0	10.4	
7060001		Mississippi River	84.6	5.0	3.8
7060002		Upper Iowa River	79.1	2.0	4.7
7060003		Mississippi River	109.6	5.9	
7060004		Turkey River	343.8	39.4	27.1
7060005		Mississippi River	87.1	12.8	
7060006		Maquoketa River	349.2	148.6	
7080101		Mississippi River	120.0	9.1	9.7
7080102		Wapsipinicon River	322.7	43.8	
7080103		Wapsipinicon River	63.2	118.3	
7080104		Mississippi River	77.4	1.5	21.1
7080105		South Skunk River	71.7	157.5	
7080106		North Skunk River	36.6	87.7	
7080107		Skunk River	188.4	43.9	
7080201		Cedar River	165.7	3.8	
7080202		Shell Rock	104.8	58.4	
7080203		Winnebago River	71.3	16.1	
7080204		West Fork Cedar River	140.4	11.4	
7080205		Cedar River	238.6	147.1	
7080206		Cedar River	200.8	6.2	
7080207		Iowa River	183.2	57.6	
7080208		Iowa River	62.1	106.4	
7080209		Iowa River	186.1	105.9	5.4
7100002		Des Moines River	132.1	45.8	
7100003		East Fork Des Moines River	184.9	57.3	
7100004		Des Moines River	276.3	50.9	0.1
7100005		Boone River	82.4	49.3	
7100006		North Raccoon River	256.2	100.1	111.2
7100007		South Raccoon River	149.6	53.9	
7100008		Des Moines River	370.7	169.5	42.1
7100009		Des Moines River	258.2	86.5	0.1
7110001		Fox River	10.6	52.3	
7110002		Fabius River	9.1	9.2	
10170203		Big Sioux River	7.7	120.6	
10170204		Rock River	110.0	57.5	
10230001		Missouri River	13.1	113.0	
10230002		Floyd River	38.1	108.2	3.4
10230003		Little Sioux River	335.1	171.5	
10230004		West Fork Little Sioux River	6.4	91.1	
10230005		Maple River	7.1	108.4	
10230006		Missouri River		70.3	
10230007		Boyer River	35.3	122.7	
10240001		Missouri River	7.0	72.7	
10240002		West Nishabotna River	36.4	233.4	
10240003		East Nishnabotna River	105.4	48.8	
10240005		Tarkio River	6.3	53.3	

Numbers in table represent length in miles

Table 5 (Maps 6,7,8) 7/31/9

Stream Use Assessment by 8-Digit HUC Basin

CU		BASIN NAME	RIVFSMILES	RIVPSMILES	RIVNSMILES
10240009		West Nodaway River	46.6	73.8	
10240010		Nodaway River	4.2	50.3	
10240012		Platte River	25.5	30.2	
10240013		One Hundred and Two River		86.3	
10280101		Grand River	30.9	13.2	
10280102		Thompson River	134.1	43.0	
10280103		Medicine Creek			
10280201		Chariton River	139.1	89.5	

RIVFSMILES - River & stream miles for which level of use support was assessed as fully supported (or fully supported, threatened).

RIVPSMILES - River & stream miles for which level of use support was assessed as partially supported.

RIVNSMILES - River & stream miles for which level of use support was assessed as not supported.

Table 6 (Maps 9,10,11,12) 7/31/98

Lake and Wetland Use Assessment by 8-Digit HUC Basin

CU	BASIN NAME	LAKE_FS	LAKE_FS_SI	WET_FS	WET_FS_SIZ	LAKE_FST	LAKFST_SIZ	WET_FST	WETFSTSIZE
		cnt	acres	cnt	acres	cnt	acres	cnt	acres
7040008	South Fork Root River								
10240004	Nishnabotna River								
7020009	Blue Earth River							1	308
7060001	Mississippi River								
7060002	Upper Iowa River								
7060003	Mississippi River								
7060004	Turkey River					1	119		
7060005	Mississippi River								
7060006	Maquoketa River								
7080101	Mississippi River					1	56		
7080102	Wapsipinicon River					1	40		
7080103	Wapsipinicon River								
7080104	Mississippi River					1	18	1	55
7080105	South Skunk River					3	193		
7080106	North Skunk River					2	284		
7080107	Skunk River					2	331		
7080201	Cedar River								
7080202	Shell Rock							1	109
7080203	Winnebago River			1	22	1	3684	2	273
7080204	West Fork Cedar River							1	940
7080205	Cedar River	2	458			3	90	1	45
7080206	Cedar River								
7080207	Iowa River					1	21	2	1099
7080208	Iowa River					6	5945		
7080209	Iowa River					2	112		
7100002	Des Moines River							3	1128
7100003	East Fork Des Moines River							1	215
7100004	Des Moines River					2	6283	1	268
7100005	Boone River					1	59	2	1398
7100006	North Raccoon River	1	35			1	925		
7100007	South Raccoon River	1	35						
7100008	Des Moines River	1	14			5	410		
7100009	Des Moines River					3	509		

Table 6 (Maps 9,10,11,12)
Lake and Wetland Use Assessment by 8-Digit HUC Basin

CU	BASIN NAME	LAKE_FS	LAKE_FS_SI	WET_FS	WET_FS_SIZ	LAKE_FST	LAKFST_SIZ	WET_FST	WETFSTSIZE
		cnt	acres	cnt	acres	cnt	acres	cnt	acres
7110001	Fox River					1	110		
7110002	Fabius River								
10170203	Big Sioux River					1	63		
10170204	Rock River								
10230001	Missouri River					3	462	1	380
10230002	Floyd River								
10230003	Little Sioux River	3	8029	6	702	7	4471	10	2042
10230004	West Fork Little Sioux River								
10230005	Maple River					2	72		
10230006	Missouri River			1	4	2	1525		
10230007	Boyer River					2	36		
10240001	Missouri River	3	33						
10240002	West Nishnabotna River					1	219		
10240003	East Nishnabotna River	1	182			1	16		
10240005	Tarkio River								
10240009	West Nodaway River					4	247		
10240010	Nodaway River								
10240012	Platte River					2	411		
10240013	One Hundred and Two River					2	41		
10280101	Grand River					1	95		
10280102	Thompson River	1	799			1	660		
10280103	Medicine Creek								
10280201	Chariton River					3	11220		

LAKE FS - Lakes for which level of use support was assessed as fully supported.

WET FS - Wetlands for which level of use support was assessed as fully supported.

LAKE FST - Lakes for which level of use support was assessed as fully supported, threatened.

WET FST - Wetlands for which level of use support was assessed as fully supported, threatened.

Table 6 (Maps 9, 10,11,12)

Lake and Wetland Use Assessment by 8-Digit HUC Basin

CU	BASIN NAME	LAKE_PS	LAKPSSIZE	WET_PS	WETPSSIZE	LAKE_NS	LAKNSSIZE	WET_NS	WETNSSIZE
		cnt	acres	cnt	acres	cnt	acres	cnt	acres
7040008	South Fork Root River								
10240004	Nishnabotna River								
7020009	Blue Earth River			2	1046				
7060001	Mississippi River								
7060002	Upper Iowa River								
7060003	Mississippi River								
7060004	Turkey River	1	37	1	62				
7060005	Mississippi River			1	526				
7060006	Maquoketa River	3	61						
7080101	Mississippi River			2	3240				
7080102	Wapsipinicon River			5	980				
7080103	Wapsipinicon River			1	245				
7080104	Mississippi River								
7080105	South Skunk River	1	236	1	240				
7080106	North Skunk River	2	620			1	14		
7080107	Skunk River	2	322						
7080201	Cedar River								
7080202	Shell Rock	1	316	1	1000				
7080203	Winnebago River			3	968				
7080204	West Fork Cedar River	1	100						
7080205	Cedar River	2	62			1	150		
7080206	Cedar River			1	310				
7080207	Iowa River	3	387	1	108				
7080208	Iowa River			3	1716				
7080209	Iowa River			1	525				
7100002	Des Moines River	3	1992						
7100003	East Fork Des Moines River	1	59			1	2360		
7100004	Des Moines River	2	193						
7100005	Boone River	1	243	1	109				
7100006	North Raccoon River	3	3650	4	1002				
7100007	South Raccoon River	2	126	1	270				
7100008	Des Moines River	5	11478						
7100009	Des Moines River	3	104			1	59		

Table 6 (Maps 9, 10,11,12)
Lake and Wetland Use Assessment by 8-Digit HUC Basin

CU	BASIN NAME	LAKE_PS	LAKPSSIZE	WET_PS	WETPSSIZE	LAKE_NS	LAKNSSIZE	WET_NS	WETNSSIZE
		cnt	*acres*	*cnt*	*acres*	*cnt*	*acres*	*cnt*	*acres*
7110001	Fox River								
7110002	Fabius River								
10170203	Big Sioux River								
10170204	Rock River								
10230001	Missouri River			1	375			8	2381
10230002	Floyd River								
10230003	Little Sioux River	2	278			2	1801		
10230004	West Fork Little Sioux River							1	70
10230005	Maple River								
10230006	Missouri River	2	329						
10230007	Boyer River	2	43					1	9
10240001	Missouri River								
10240002	West Nishabotna River			1	150				
10240003	East Nishnabotna River	2	89						
10240005	Tarklo River								
10240009	West Nodaway River								
10240010	Nodaway River	4	757						
10240012	Platte River					1	50		
10240013	One Hundred and Two River	1	97						
10280101	Grand River			1	60				
10280102	Thompson River	2	79	1	4				
10280103	Medicine Creek								
10280201	Chariton River			3	498	2	139		

LAKE PS - Lakes for which level of use support was assessed as partially supported.

WET PS - Wetlands for which level of use support was assessed as partially supported.

LAKE NS - Lakes for which level of use support was assessed as not supported.

WET NS - Wetlands for which level of use support was assessed as not supported.

7/30/98

Table 7 (Map 13)
Number of Sinkholes in Each 8-Digit HUC Basin

CU	BASIN NAME	COUNT
7040008	South Fork Root River	1
10240004	Nishnabotna River	
7020009	Blue Earth River	
7060001	Mississippi River	3464
7060002	Upper Iowa River	1781
7060003	Mississippi River	392
7060004	Turkey River	2710
7060005	Mississippi River	762
7060006	Maquoketa River	301
7080101	Mississippi River	1
7080102	Wapsipinicon River	26
7080103	Wapsipinicon River	4
7080104	Mississippi River	46
7080105	South Skunk River	
7080106	North Skunk River	
7080107	Skunk River	8
7080201	Cedar River	1322
7080202	Shell Rock	586
7080203	Winnebago River	25
7080204	West Fork Cedar River	8
7080205	Cedar River	3
7080206	Cedar River	22
7080207	Iowa River	
7080208	Iowa River	
7080209	Iowa River	
7100002	Des Moines River	
7100003	East Fork Des Moines River	
7100004	Des Moines River	
7100005	Boone River	
7100006	North Raccoon River	
7100007	South Raccoon River	
7100008	Des Moines River	
7100009	Des Moines River	
7110001	Fox River	
7110002	Fabius River	
10170203	Big Sioux River	
10170204	Rock River	
10230001	Missouri River	
10230002	Floyd River	
10230003	Little Sioux River	
10230004	West Fork Little Sioux River	
10230005	Maple River	
10230006	Missouri River	
10230007	Boyer River	
10240001	Missouri River	
10240002	West Nishabotna River	
10240003	East Nishnabotna River	
10240005	Tarkio River	

Table 7 (Map 13) 7/30/98

Number of Sinkholes in Each 8-Digit HUC Basin

CU	BASIN NAME	COUNT
10240009	West Nodaway River	
10240010	Nodaway River	
10240012	Platte River	
10240013	One Hundred and Two River	
10280101	Grand River	
10280102	Thompson River	
10280103	Medicine Creek	
10280201	Chariton River	

Table 8 (Map 14) 7/30/98

Number of Agricultural Drainage Wells in Each 8-Digit HUC Basin

CU	BASIN NAME	COUNT
7040008	South Fork Root River	0
10240004	Nishnabotna River	0
7020009	Blue Earth River	0
7060001	Mississippi River	0
7060002	Upper Iowa River	1
7060003	Mississippi River	0
7060004	Turkey River	0
7060005	Mississippi River	0
7060006	Maquoketa River	0
7080101	Mississippi River	0
7080102	Wapsipinicon River	0
7080103	Wapsipinicon River	1
7080104	Mississippi River	0
7080105	South Skunk River	0
7080106	North Skunk River	0
7080107	Skunk River	0
7080201	Cedar River	31
7080202	Shell Rock	70
7080203	Winnebago River	1
7080204	West Fork Cedar River	2
7080205	Cedar River	9
7080206	Cedar River	5
7080207	Iowa River	26
7080208	Iowa River	1
7080209	Iowa River	0
7100002	Des Moines River	147
7100003	East Fork Des Moines River	22
7100004	Des Moines River	40
7100005	Boone River	19
7100006	North Raccoon River	1
7100007	South Raccoon River	0
7100008	Des Moines River	0
7100009	Des Moines River	0
7110001	Fox River	0
7110002	Fabius River	0
10170203	Big Sioux River	0
10170204	Rock River	0
10230001	Missouri River	0
10230002	Floyd River	0
10230003	Little Sioux River	0
10230004	West Fork Little Sioux River	0
10230005	Maple River	0
10230006	Missouri River	0
10230007	Boyer River	0
10240001	Missouri River	0
10240002	West Nishabotna River	0
10240003	East Nishnabotna River	0
10240005	Tarkio River	0

7/30/98

Table 8 (Map 14)

Number of Agricultural Drainage Wells in Each 8-Digit HUC Basin

CU		BASIN NAME	COUNT
10240009		West Nodaway River	0
10240010		Nodaway River	0
10240012		Platte River	0
10240013		One Hundred and Two River	0
10280101		Grand River	0
10280102		Thompson River	0
10280103		Medicine Creek	0
10280201		Chariton River	0

7/31/98

Table 9 (Map 23)
Current and Recently Completed Iowa Water Quality Projects

COUNTY	PROJECT
ADAIR	Three Mile Lake
ADAMS	Lake Icaria
ADAMS	Three Lakes
ALLAMAKEE	French Creek
ALLAMAKEE	Allamakee Co Sinkhole Project
ALLAMAKEE	Little Paint Creek
ALLAMAKEE	Hickory Creek
ALLAMAKEE	Coon Creek
ALLAMAKEE	NE Iowa BMP Demo Project
APPANOOSE	Centerville Reservoirs
BUENA VISTA	Storm lake
BUTLER	Tri-County Rural Water Protection
CARROLL	Carroll County Livestock Pollution Aba
CARROLL	Hazelbrush Watershed
CARROLL	Black Hawk Lake
CERRO GORDO	Clear Lake
CLARKE	West Lake
CLARKE	Southern Iowa Grazing Project
CLAYTON	North Cedar Creek
CLAYTON	Sny Magill Creek
CLAYTON	Sny Magill Monitoring
CLAYTON	Ensign Hollow Creek
CLAYTON	Ensign Hollow Creek II
CLAYTON	NE Iowa BMP Demo Project
CRAWFORD	Yellowsmoke Lake
DALLAS	Beaver Lake
DAVIS	Lake Fisher
DAVIS	Lake Wappelo
DECATUR	Slip Bluff Lake
DECATUR	Hanthorn Watershed, Little River Lake
DECATUR	Pollmiller Lake
DECATUR	Nine Eagles Lake
DELAWARE	Little Turkey River
DELAWARE	Spring Branch Creek
DELAWARE	Elk Creek
DES MOINES	Bonus For Trees
DES MOINES	Lake Geode
DICKINSON	Iowa Great Lakes
DUBUQUE	Bloody Run Creek
EMMET	Ingham-High Lakes
FAYETTE	Glovers Creek
FAYETTE	Volga Lake
FAYETTE	Yellow/Turkey Rivers
FAYETTE	NE Iowa BMP Demo Project
FLOYD	Floyd County Groundwater Protection
FLOYD	Tri-County Rural Water Protection
FRANKLIN	Beeds Lake
FREMONT	Anderson Well/Groundwater Quality

Table 9 (Map 23) 7/31/98

Current and Recently Completed Iowa Water Quality Projects

GRUNDY	Pine Lakes
GRUNDY	Minnehaha Watershed
HANCOCK	Clear Lake
HARDIN	Pine Lakes
HARRISON	Pleasant View Park
HARRISON	Desoto Bend Lake
HARRISON	Schley Park
HARRISON	Willow Lake
HENRY	Lake Geode
HOWARD	Coldwater Corridor Protection
HOWARD	Bigalk Creek
HOWARD	Bigalk to Bohemian
HUMBOLDT	Humboldt Co Ag Drainage Well Project
IDA	Battle Creek Groundwater Protection
IDA	Moorehead Lake
IDA	Crawford Creek Lake
IOWA	Iowa Lake
JACKSON	Upper Big Mill Creek
JACKSON	South Fork - Big Mill
JASPER	Mariposa
JASPER	Rock Creek Lake
JEFFERSON	Fairfield/Jefferson Groundwater Qualit
JEFFERSON	Lake Darling
JOHNSON	Johnson County Urban WQ Project
JOHNSON	Kent Park Lake
JONES	Dutch Creek
KEOKUK	Lake Darling
KOSSUTH	Kossuth Co Model Farms ICM Project
KOSSUTH	Union Slough/Smith lake
LINN	Dry Creek
LINN	Cedar Rapids Area Urban Project
LINN	PURE Project
LUCAS	Williamson Pond
LUCAS	Red Haw Lake
LUCAS	Lucas Lakes (Red Haw, Morris, Ellis)
LYON	Lake Pahoja
MAHASKA	Lake Keomah
MAHASKA	Hawthorn Lake
MARION	Roberts Creek Lake
MARSHALL	Green Castle Lake
MARSHALL	Union Grove Lake
MITCHELL	Tri-County Rural Water Protection
MITCHELL	Mitchell Co Devonian Aquifer Protectio
MONROE	Miami Lake
MONTGOMERY	Viking Lake
MONTGOMERY	Pilot Grove Park
PAGE	Pierce Creek Pond
POLK	Des Moines Metro Urban Project
POWESHIEK	Arbor Lake

Table 9 (Map 23) 7/31/98

Current and Recently Completed Iowa Water Quality Projects

POWESHIEK	Diamond lake
RINGGOLD	Fogel Lake
SAC	Black Hawk lake
SCOTT	Duck Creek
SCOTT	Lake of the Hills
SHELBY	Prairie Rose Lake
STORY	Hickory Grove Lake
STORY	Bear Creek Riparian Corridor Project
TAMA	Union Grove Lake
TAMA	Otter Creek Lake
TAMA	Hickory Hills Lake
TAYLOR	Lake of Three Fires
UNION	Three Mile Lake
UNION	Thayer Lake
UNION	Highline Watershed, Twelve Mile Lake
UNION	Spaulline Watershed, Twelve Mile Lake
UNION	McCann Watershed, Twelve Mile Lake
VAN BUREN	Lacey-Keosaqua Lake
WASHINGTON	Lake Darling
WAYNE	Corydon lake
WAYNE	Rathbun Lake Clean Water Project
WINNESHIEK	Trout Run Creek
WINNESHIEK	Coldwater Corridor Protection
WINNESHIEK	Lake Meyers
WINNESHIEK	NE Iowa BMP Demo Project
WRIGHT	Wright Co Manure/Ag Drainage Well Mgm

Table 10 (Map 24)

Priority of Iowa's 8-Digit HUCs

Cataloging Unit	Watershed Name	Priority
7060002	Upper Iowa River	1
7060004	Turkey River	1
7060006	Maquoketa River	1
7080105	South Skunk River	1
7080201	Cedar River	1
7080202	Shell Rock	1
7080205	Cedar River	1
7080208	Iowa River	1
7100002	Des Moines River	1
7100004	Des Moines River	1
7100006	North Raccoon River	1
10240002	West Nishabotna River	1
7060001	Mississippi River	2
7060003	Mississippi River	2
7060005	Mississippi River	2
7080101	Mississippi River	2
7080102	Wapsipinicon River	2
7080103	Wapsipinicon River	2
7080104	Mississippi River	2
7080106	North Skunk River	2
7080107	Skunk River	2
7080203	Winnebago River	2
7080204	West Fork Cedar River	2
7080207	Iowa River	2
7080209	Iowa River	2
7100003	East Fork Des Moines River	2
7100005	Boone River	2
7100007	South Raccoon River	2
7100008	Des Moines River	2
7100009	Des Moines River	2
7110001	Fox River	2
10170203	Big Sioux River	2
10230001	Missouri River	2
10230003	Little Sioux River	2
10230005	Maple River	2
10230006	Missouri River	2
10230007	Boyer River	2
10240001	Missouri River	2
10240003	East Nishnabotna River	2
10240009	West Nodaway River	2
10240010	Nodaway River	2
10240012	Platte River	2
10240013	One Hundred and Two River	2
10280201	Chariton River	2
7020009	Blue Earth River	3
7040008	South Fork Root River	3
7080206	Cedar River	3

Table 10 - (Map 24)

7110002	Fabius River	3
10170204	Rock River	3
10230002	Floyd River	3
10230004	West Fork Little Sioux River	3
10240004	Nishnabotna River	3
10240005	Tarkio River	3
10280101	Grand River	3
10280102	Thompson River	3
10280103	Medicine Creek	3

Table 11 - (Map 25)

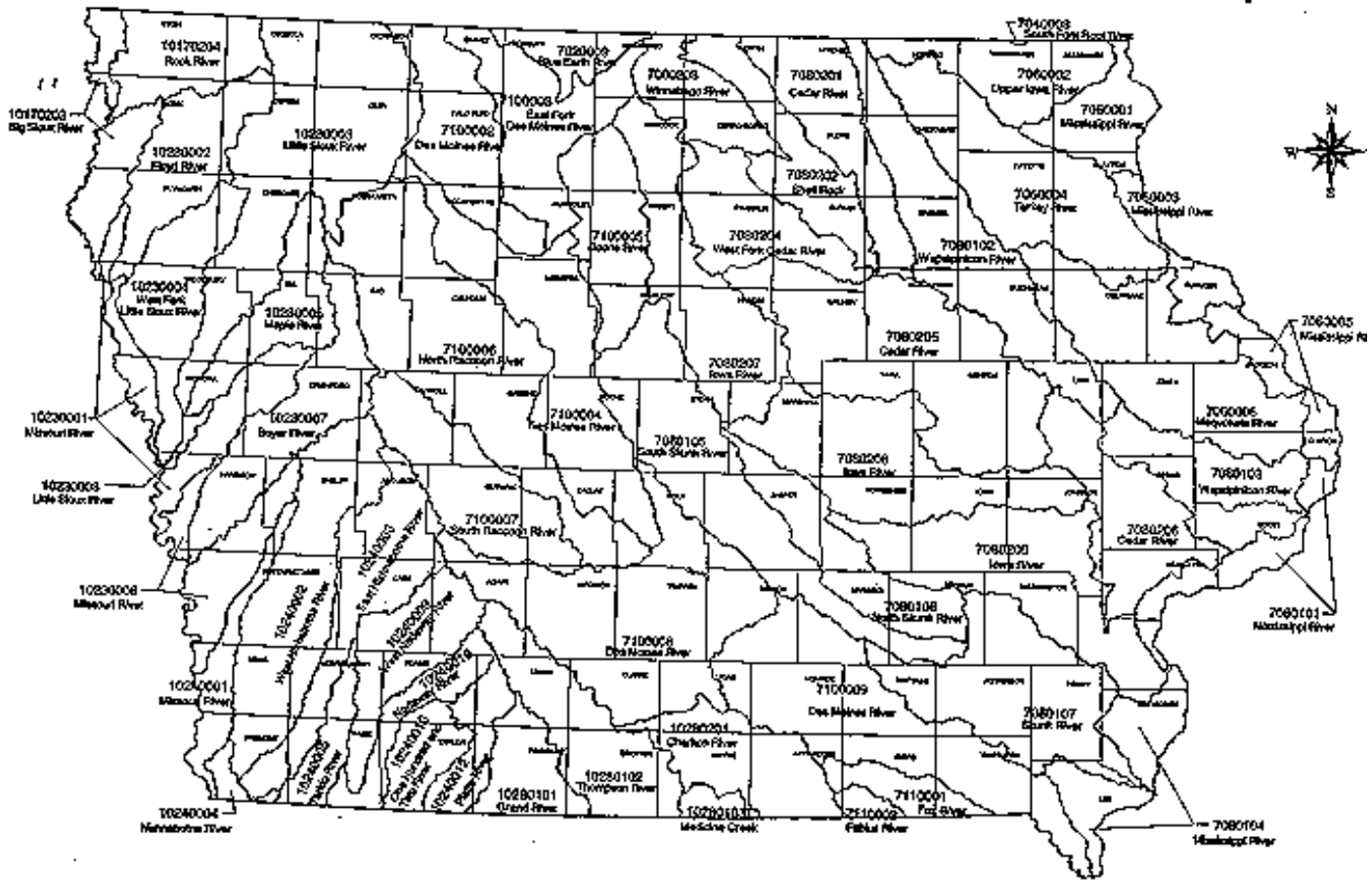
49	Bob White Lake	10280201 Chariton River
50	Orient Lake	10240010 Nodaway River
51	Lake Icaria	10240010 Nodaway River
52	Pierce Creek Pond	10240003 East Nishnabotna River
53	Littlefield Lake	10240003 East Nishnabotna River
54	Lake of Three Fires	10240013 One Hundred and Two River
55	Manteno Park Pond	10230007 Boyer River
56	Yellow Smoke Park Lake	10230007 Boyer River
57	BIG SIOUX R	10170203 Big Sioux River
58	Arrowhead Pond	10230006 Missouri River

Table 11 (Map 25)

Waters Included in Iowa's 9/18/98 Draft 303(d) List

Number	Waterbody Name	Cataloging	Basin Name
1	ROCK CR	7080101	Mississippi River
2	MAQUOKETA R	7060006	Maquoketa River
3	Silver Lake	7060006	Maquoketa River
4	MISSISSIPPI R	7080101	Mississippi River
5	Central Park Lake	7060006	Maquoketa River
6	Lake Meyers	7060004	Turkey River
7	VOLGA R	7060004	Turkey River
8	CEDAR R	7080205	Cedar River
9	CEDAR R	7080205	Cedar River
10	MUD CR	7080206	Cedar River
11	SUGAR CR	7080206	Cedar River
12	Rodgers Park Lake	7080205	Cedar River
13	BLACK HAWK CR	7080205	Cedar River
14	IOWA R	7080209	Iowa River
15	Lake McBride	7080208	Iowa River
16	IOWA R	7080208	Iowa River
17	Lower Pine Lake	7080207	Iowa River
18	Crystal Lake	7080207	Iowa River
19	Beeds Lake	7080204	West Fork Cedar River
20	Clear Lake	7080203	Winnebago River
21	Arbor Lake	7080106	North Skunk River
22	Rock Creek Lake	7080106	North Skunk River
23	Mariposa Lake	7080106	North Skunk River
24	MISSISSIPPI R	7080104	Mississippi River
25	Lake Darling	7080107	Skunk River
26	Lake Keomah	7080105	South Skunk River
27	DES MOINES R, E BR	7100003	East Fork Des Moines River
28	DES MOINES R	7100008	Des Moines River
29	Indian Lake	7100009	Des Moines River
30	Lake Miami	7100009	Des Moines River
31	Williamson Pond	7100009	Des Moines River
32	West Lake (Osceola)	7100008	Des Moines River
33	Badger Creek Lake	7100008	Des Moines River
34	YEADER CR	7100008	Des Moines River
36	Easter Lake	7100008	Des Moines River
37	RACCOON R	7100006	North Raccoon River
38	N RACCOON R	7100006	North Raccoon River
39	N RACCOON R	7100006	North Raccoon River
40	Storm Lake (incl Little Storm Lake)	7100006	North Raccoon River
41	Springbrook Lake	7100007	South Raccoon River
42	Swan Lake	7100007	South Raccoon River
43	Big Creek Lake	7100004	Des Moines River
44	Don Williams Lake	7100004	Des Moines River
45	Badger Lake	7100004	Des Moines River
46	CHARITON R	10280201	Chariton River
47	Rathbun Reservoir	10280201	Chariton River
48	Corydon Reservoir	10280201	Chariton River

Iowa Eight Digit Hydrologic Unit* Map



* Hydrologic units of all sizes are commonly referred to as watersheds.

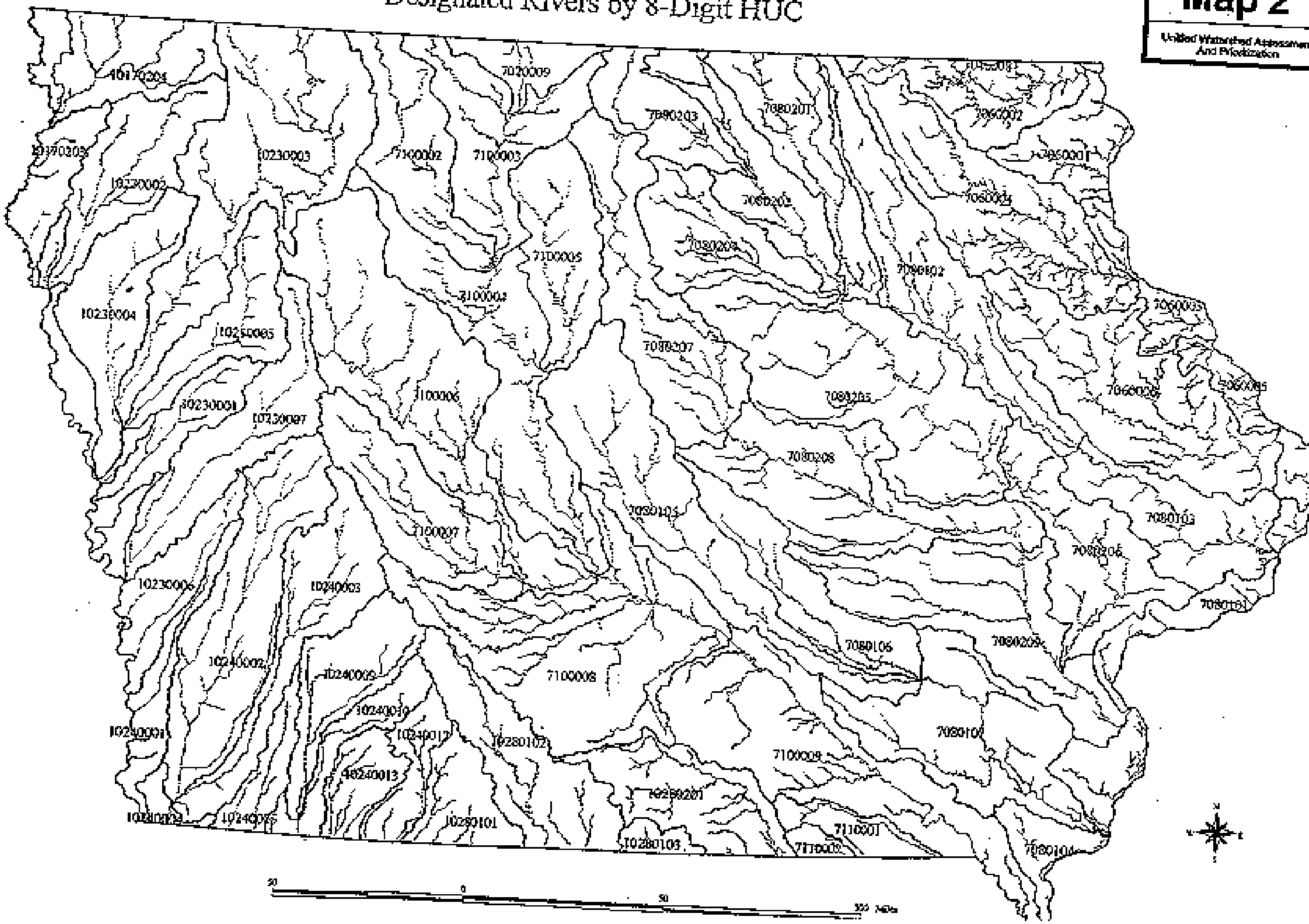
A nationally uniform hydrologic unit mapping and numbering system was developed in the mid 1970's by the US Geological Survey. This system divides the country into 21 Regions, 222 Subregions, 352 Accounting Units and 2,149 Cataloging Units based on surface hydrologic features. A hydrologic unit code (HUC) consisting of two digits for each level in the hydrologic unit system is used to identify any hydrologic area.

Iowa lies within all or part of 56 eight digit hydrologic units which are shown on the above map.

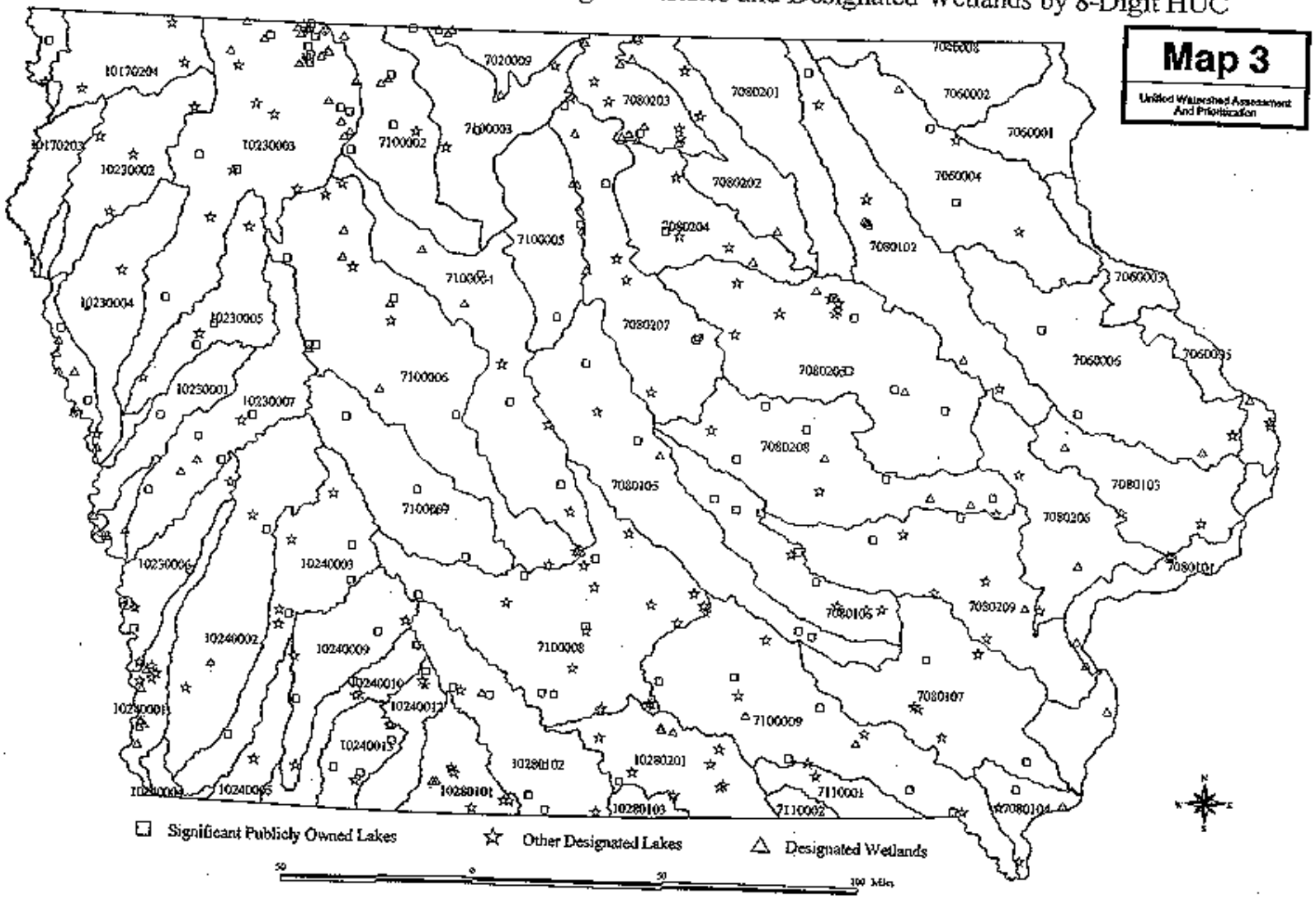
Designated Rivers by 8-Digit HUC

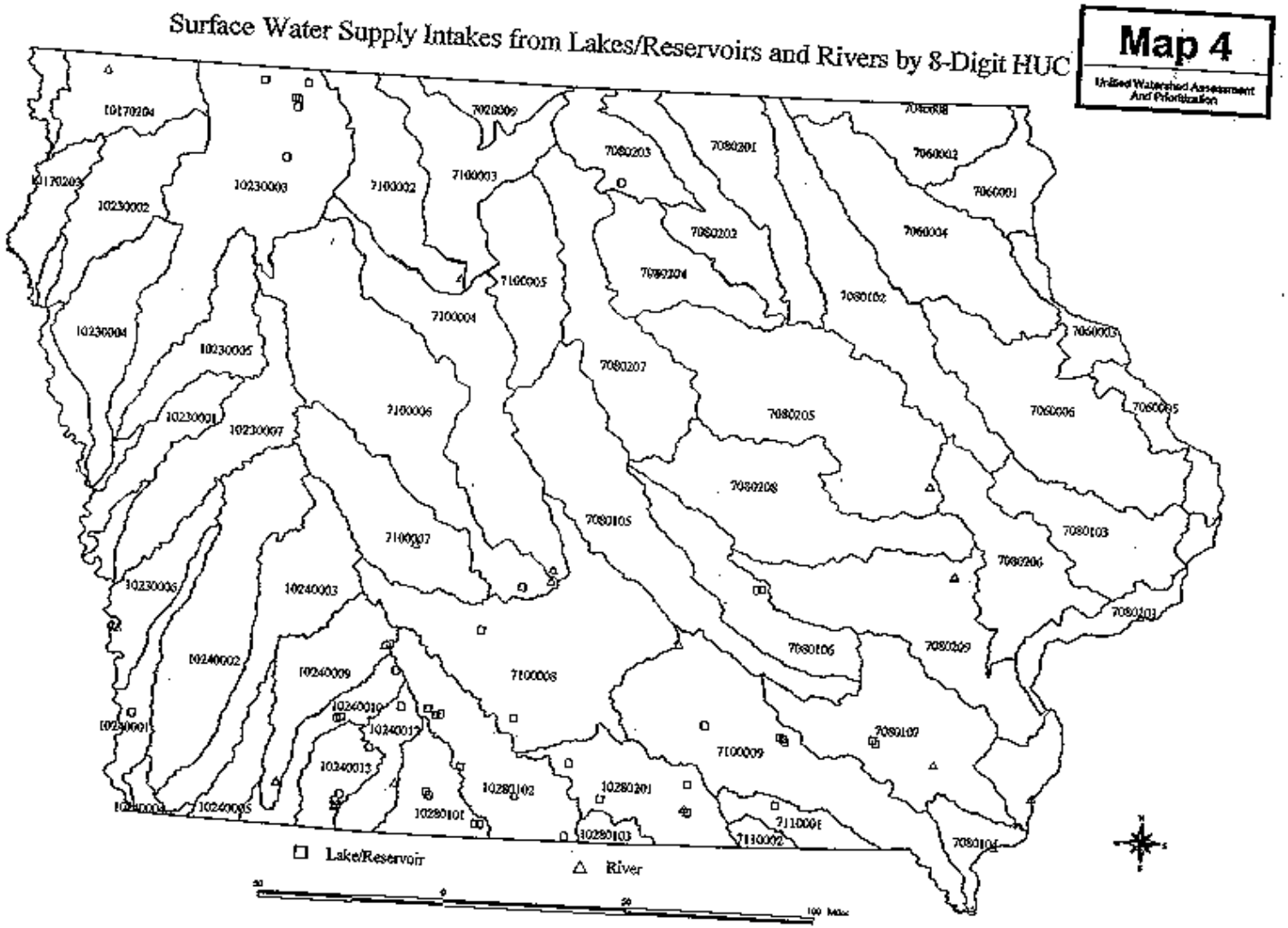
Map 2

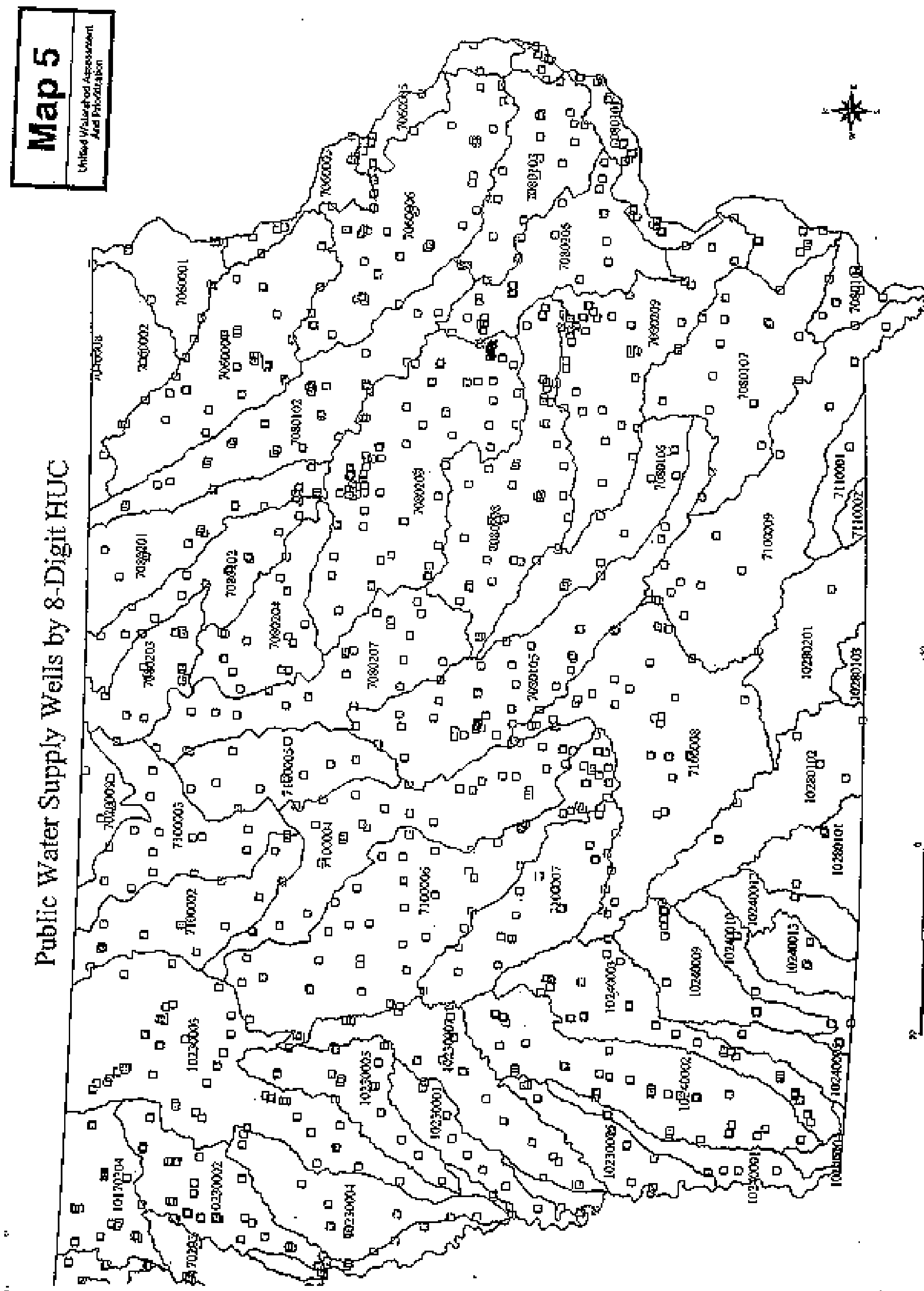
Unified Watershed Assessment And Prioritization



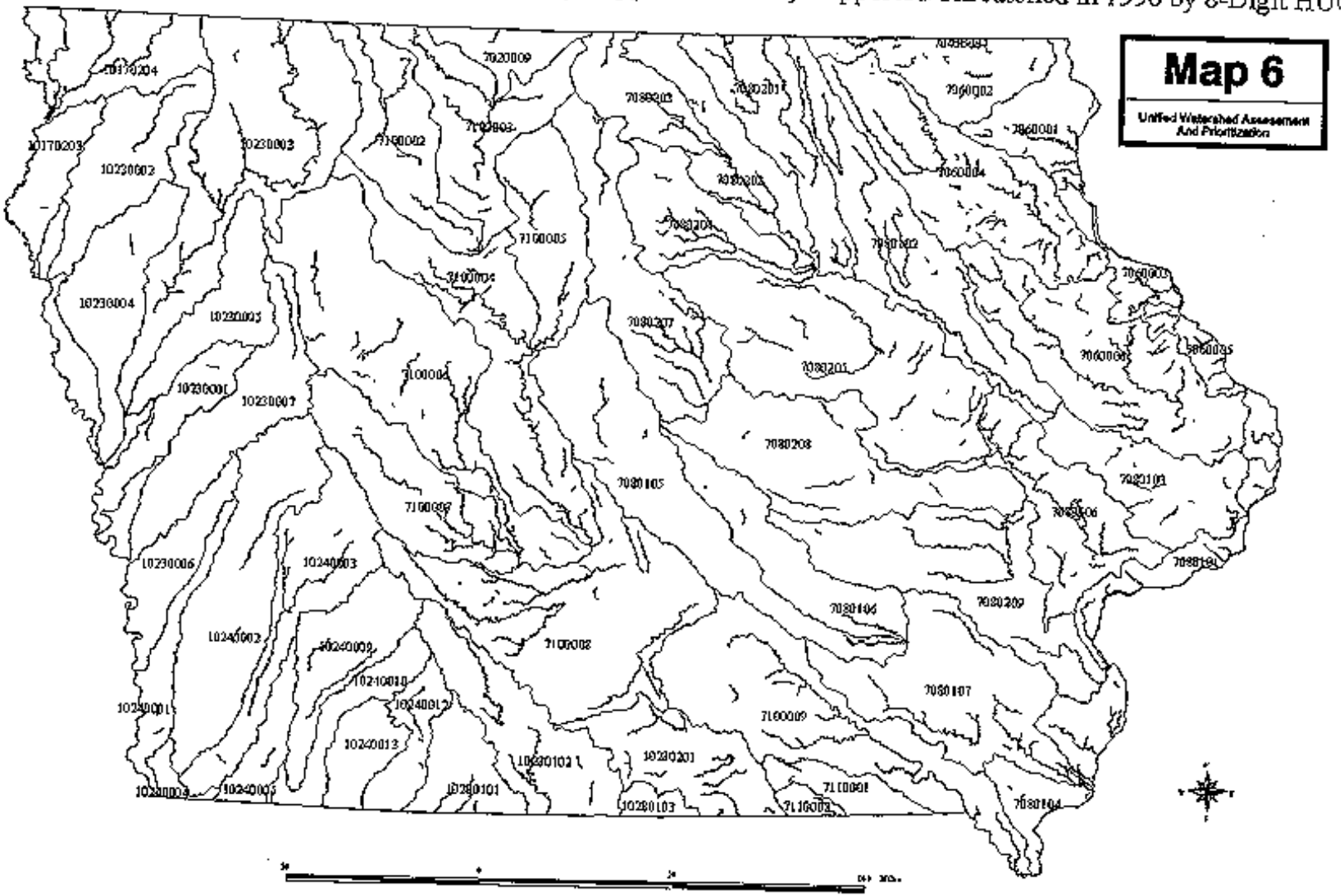
Significant Publicly Owned Lakes, Other Designated Lakes and Designated Wetlands by 8-Digit HUC



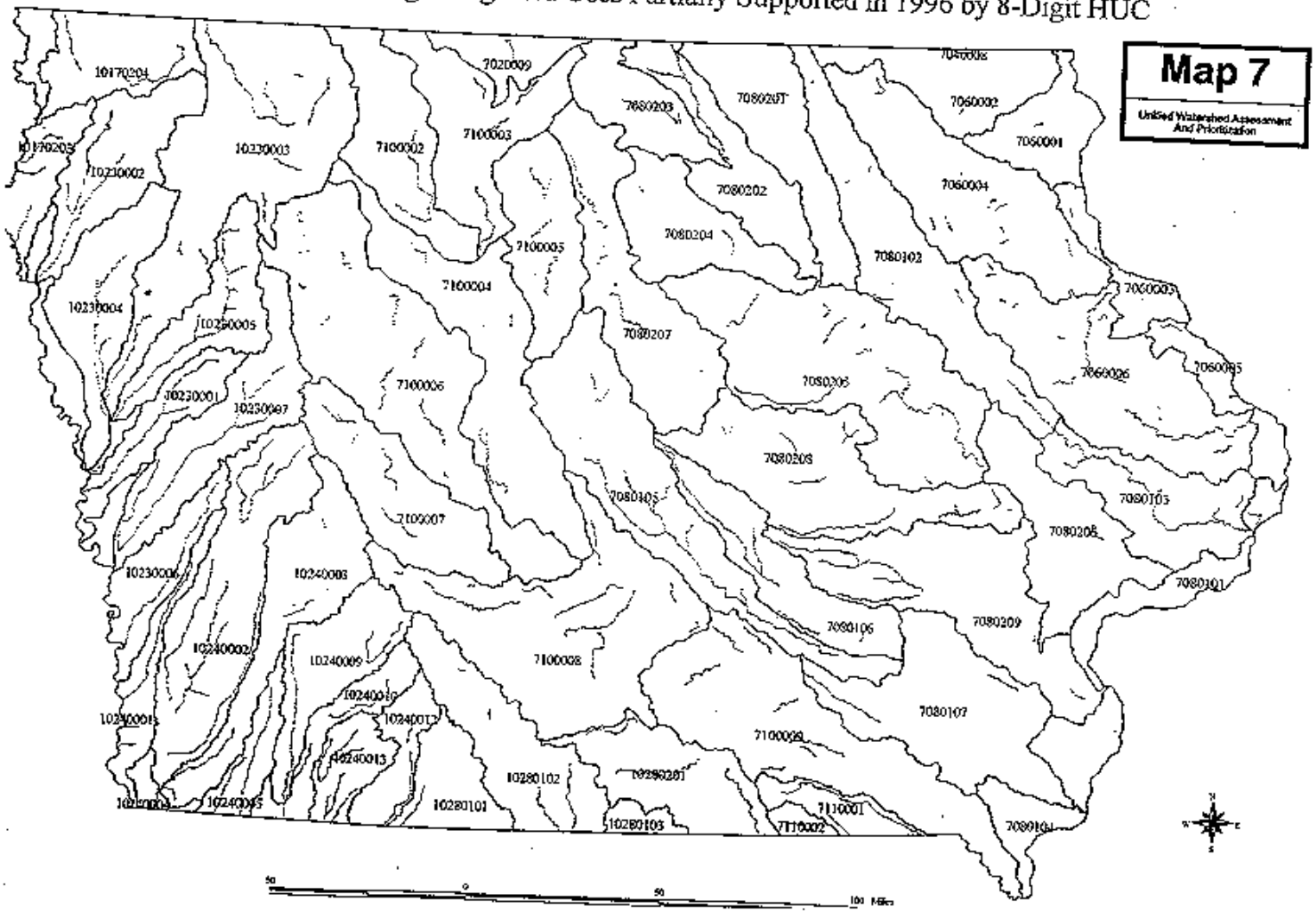

Surface Water Supply Intakes from Lakes/Reservoirs and Rivers by 8-Digit HUC
Map 4
Unified Watershed Assessment And Prioritization
10170204
10170203
10230002
10230003
7100002
7100003
7020009
7080203
7080201
7060002
7060001
7080202
7060004
7080204
7100005
7080102
7100004
7060003
10230004
10230005
7080207
10230001
10230007
7100006
7080205
7060006
7060005
7080208
7080105
7100007
7080103
7080206
10230006
10240003
7080101
7080106
7080209
10240002
10240009
7100008
10240010
10240012
7080107
10230001
7100009
10240013
10280102
10280201
10240004
10240005
10280101
10280103
7110001
7110002
7080104
Lake/Reservoir
River
50
0
50
100 Miles

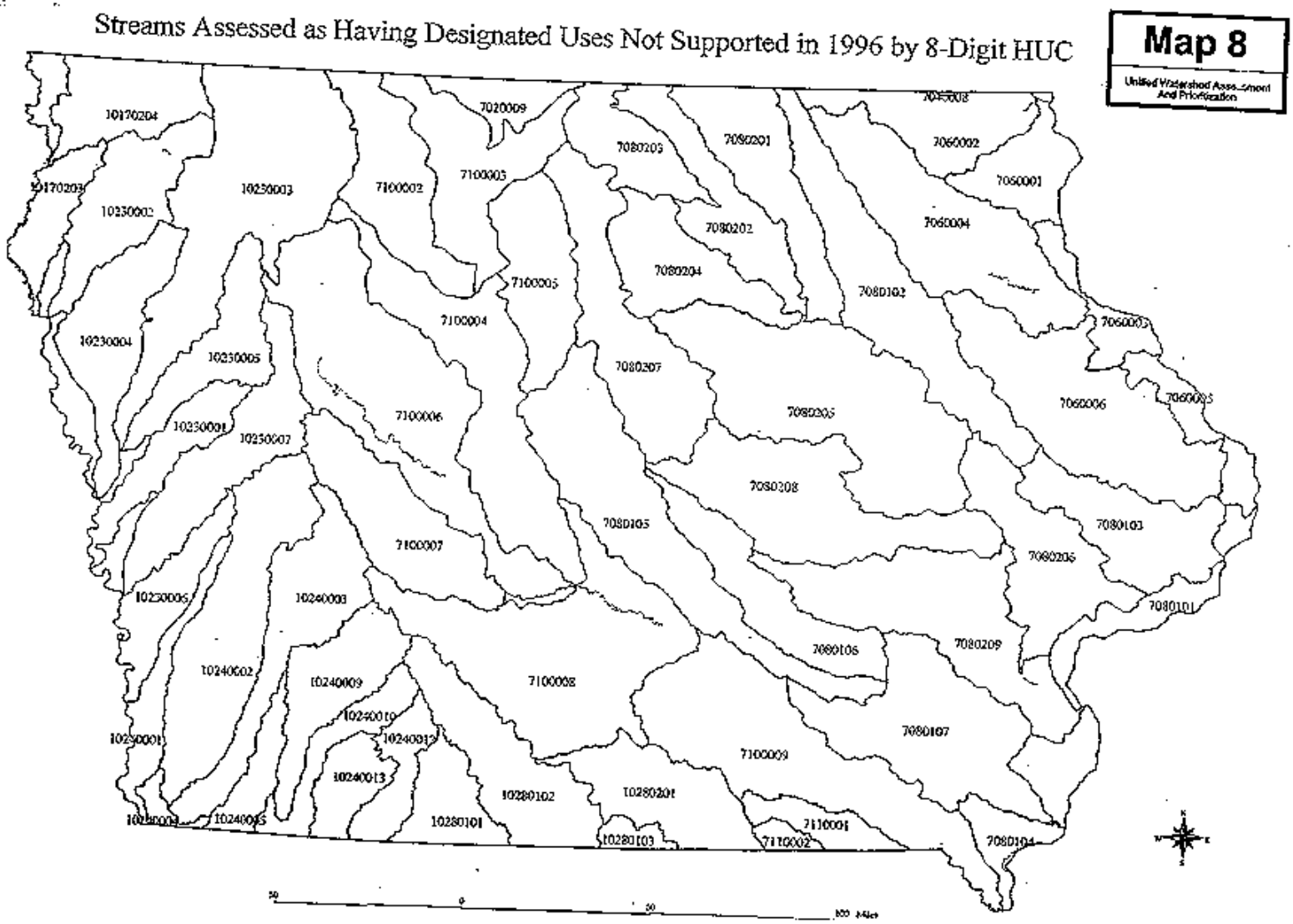

Map 5
Unified Watershed Assessment And Prioritization
Public Water Supply Wells by 8-Digit HUC

Streams Assessed as Having Designated Uses Fully Supported or Fully Supported/Threatened in 1996 by 8-Digit HU

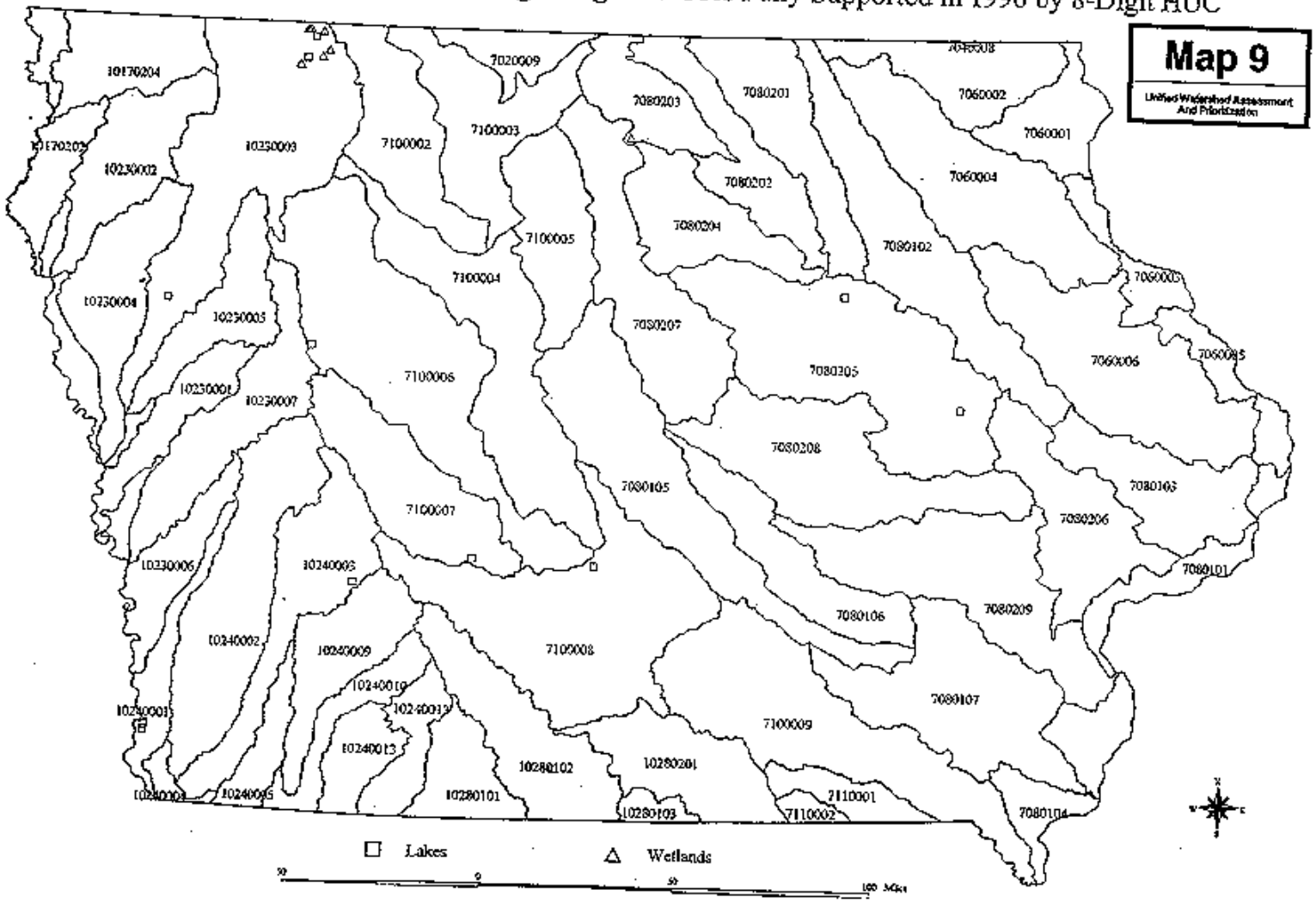


Streams Assessed as Having Designated Uses Partially Supported in 1996 by 8-Digit HUC

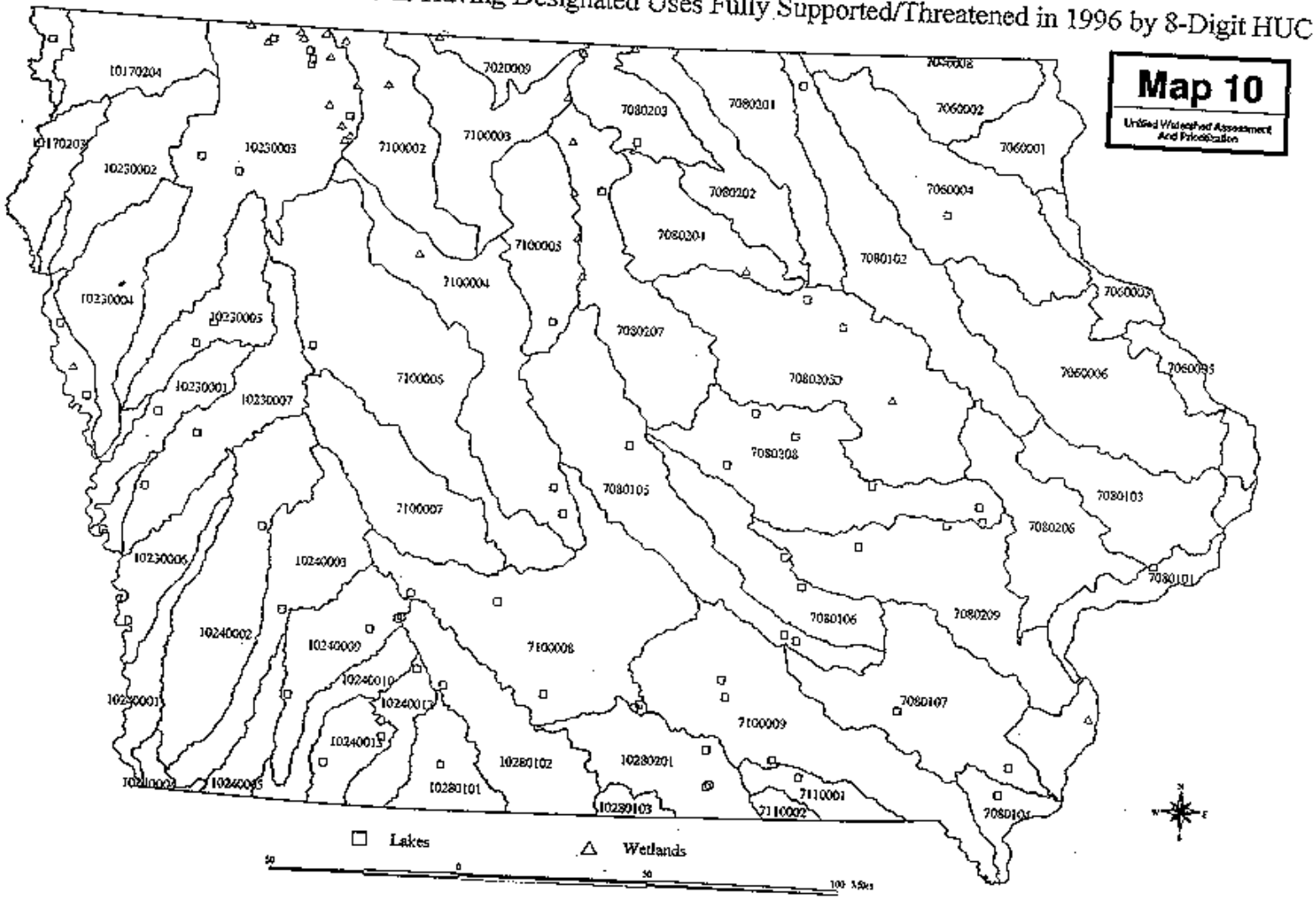



Streams Assessed as Having Designated Uses Not Supported in 1996 by 8-Digit HUC
Map 8
Unified Watershed Assessment And Prioritization
10170204
10170203
10230002
10230003
7100002
7020009
7100005
7080209
7080201
7060002
7060001
7080202
7060004
7080204
7080102
7100005
7100004
10230004
10230005
7080207
7060003
7060006
7060005
10230001
10250007
7100006
7080205
7080208
7080105
7080103
7100007
7080206
10230006
10240008
7080101
7080106
7080209
10240002
10240009
7100008
10240010
10240011
10230001
7080107
7100009
10240013
10240012
10280102
10280201
10240015
10280101
10280103
7110001
7110002
7080104
50
0
50
100 Miles

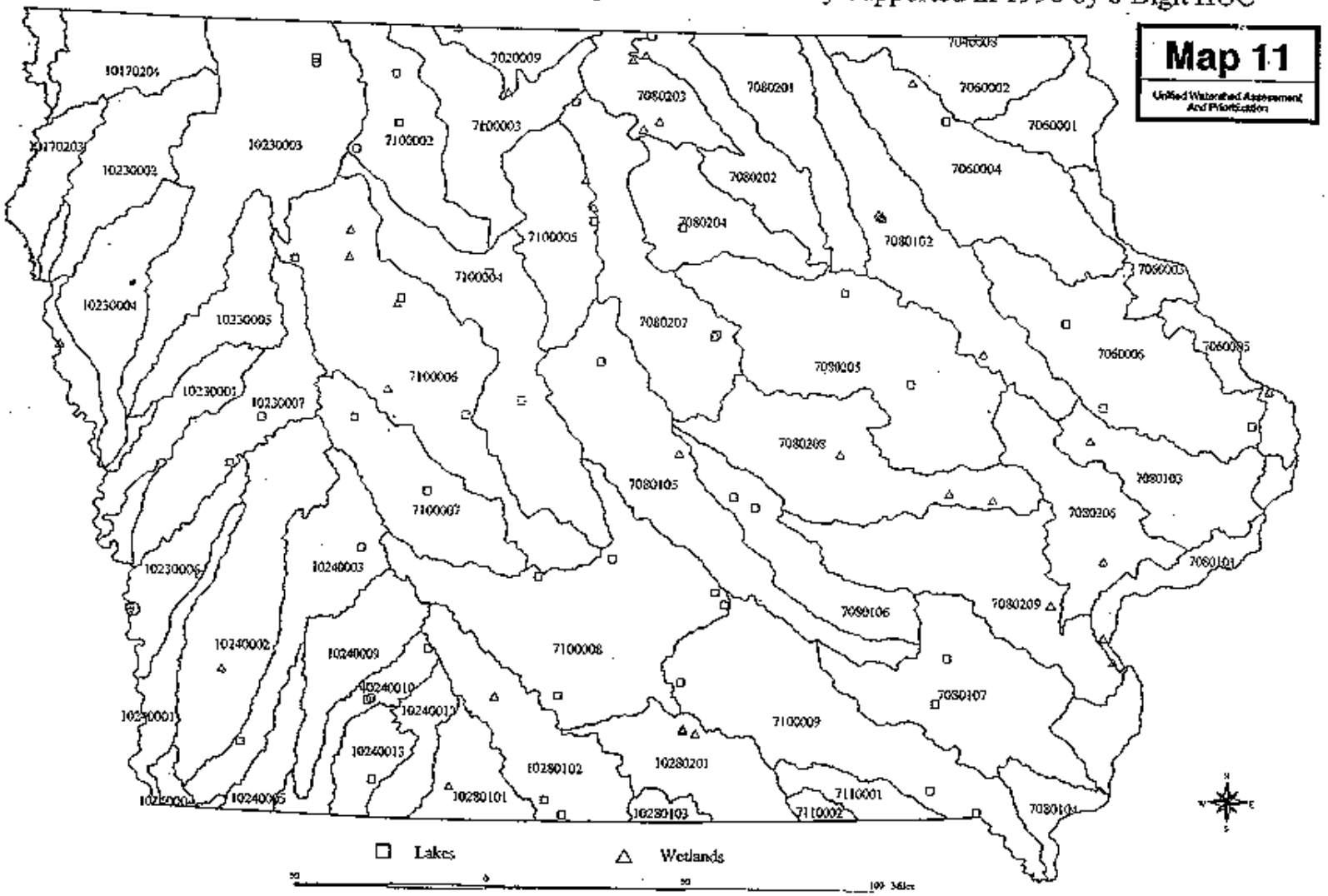
Lakes and Wetlands Assessed as Having Designated Uses Fully Supported in 1996 by 8-Digit HUC



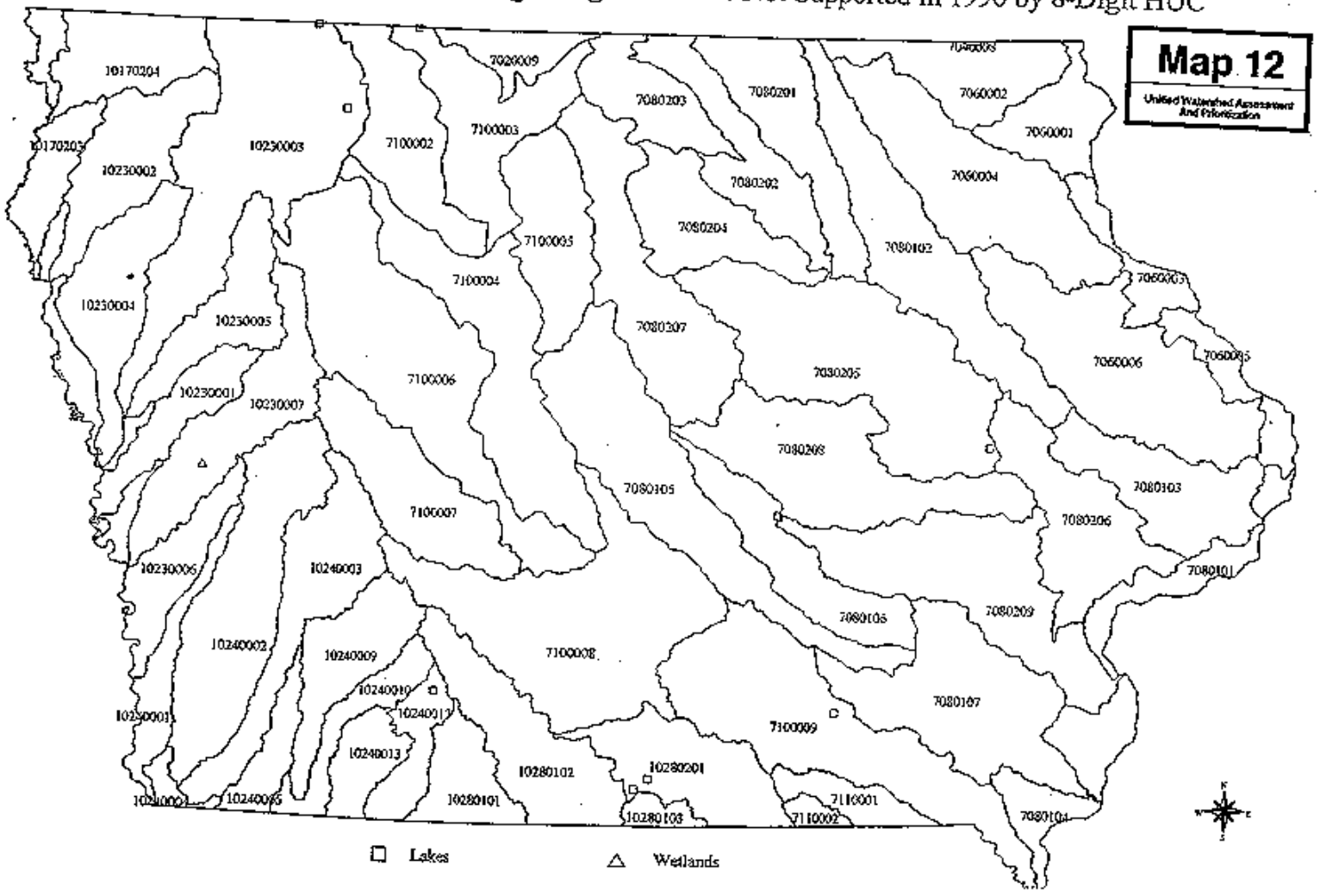
Lakes and Wetlands Assessed as Having Designated Uses Fully Supported/Threatened in 1996 by 8-Digit HUC

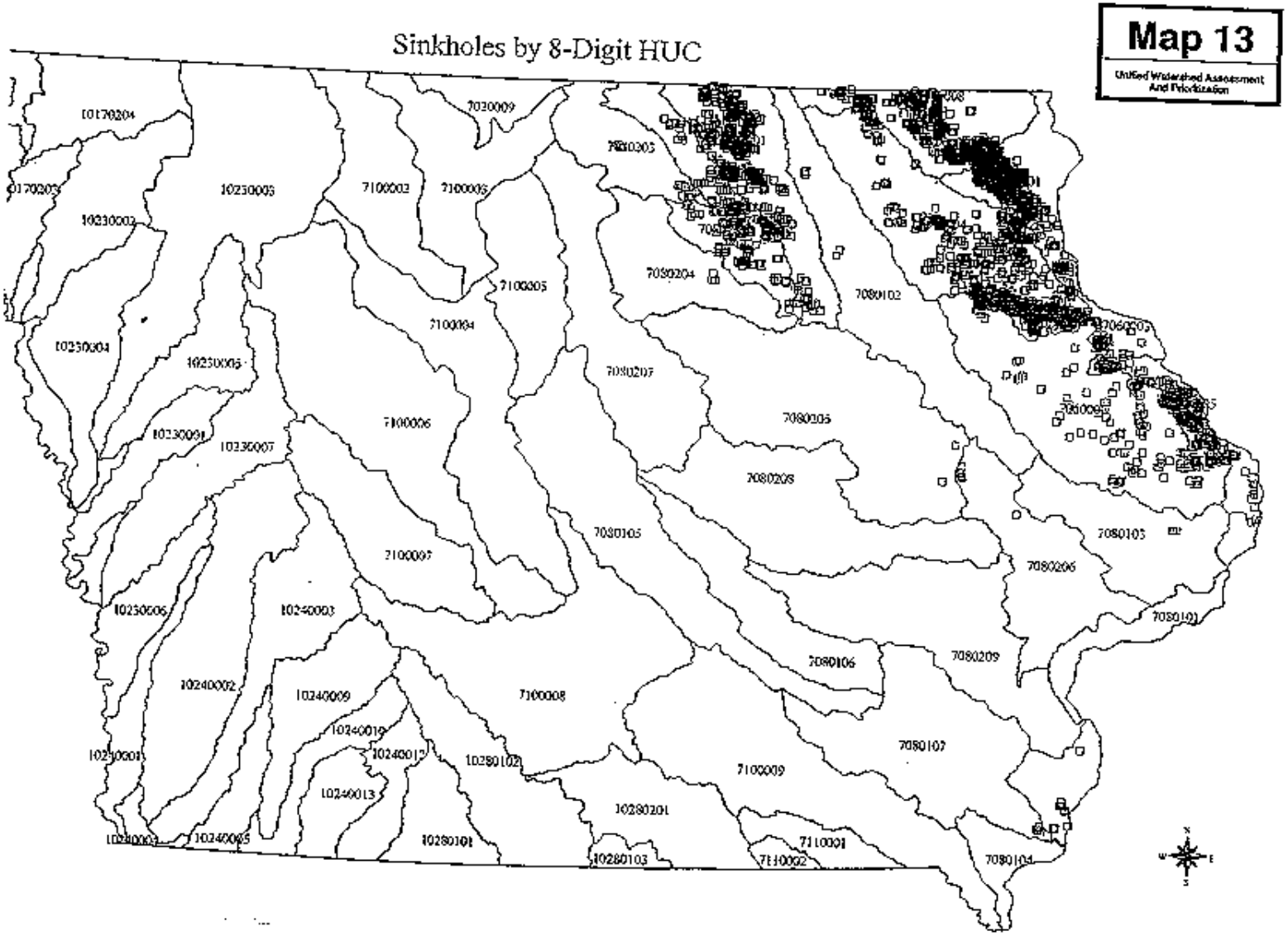


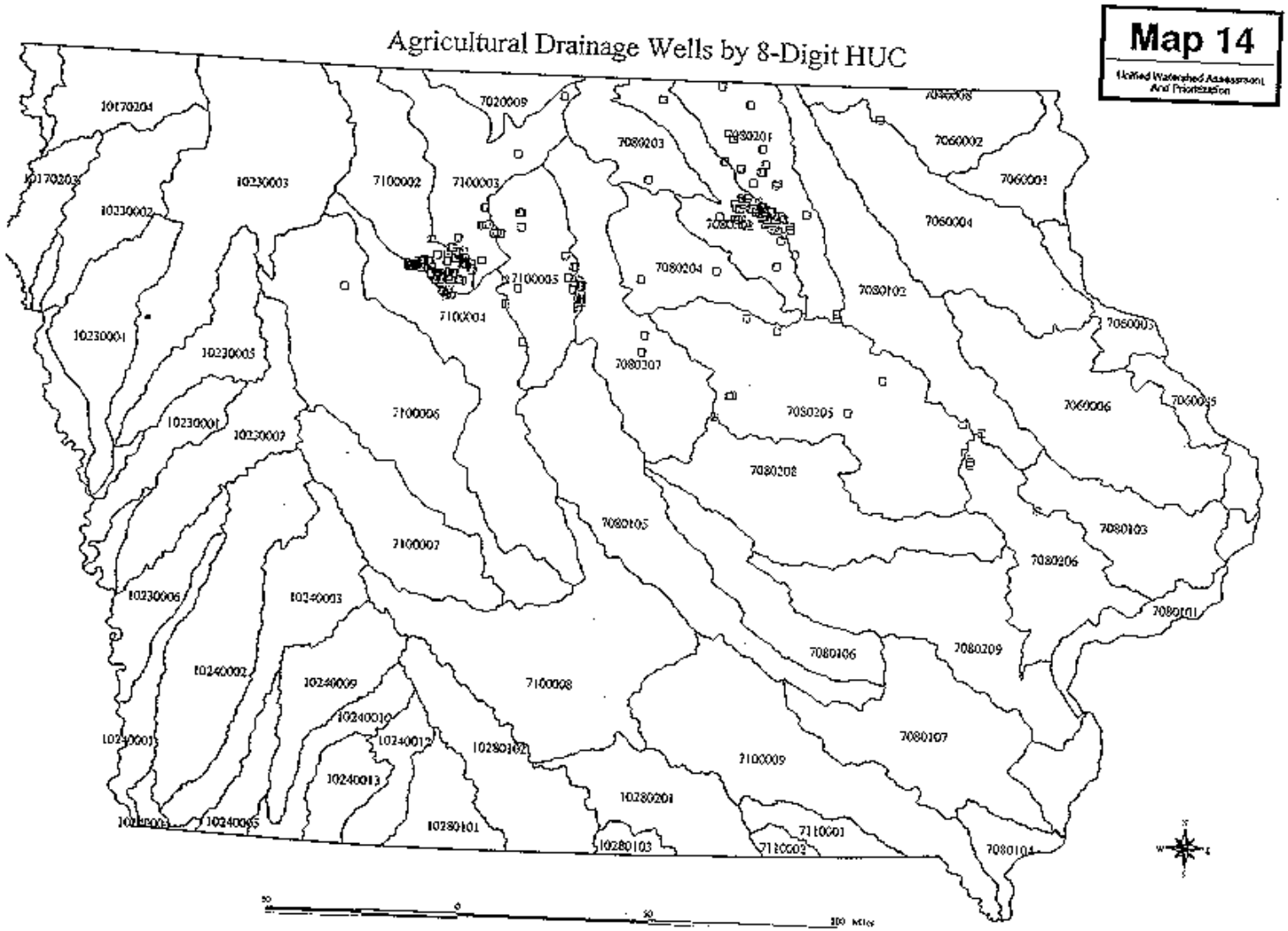
Lakes and Wetlands Assessed as Having Designated Uses Partially Supported in 1996 by 8-Digit HUC



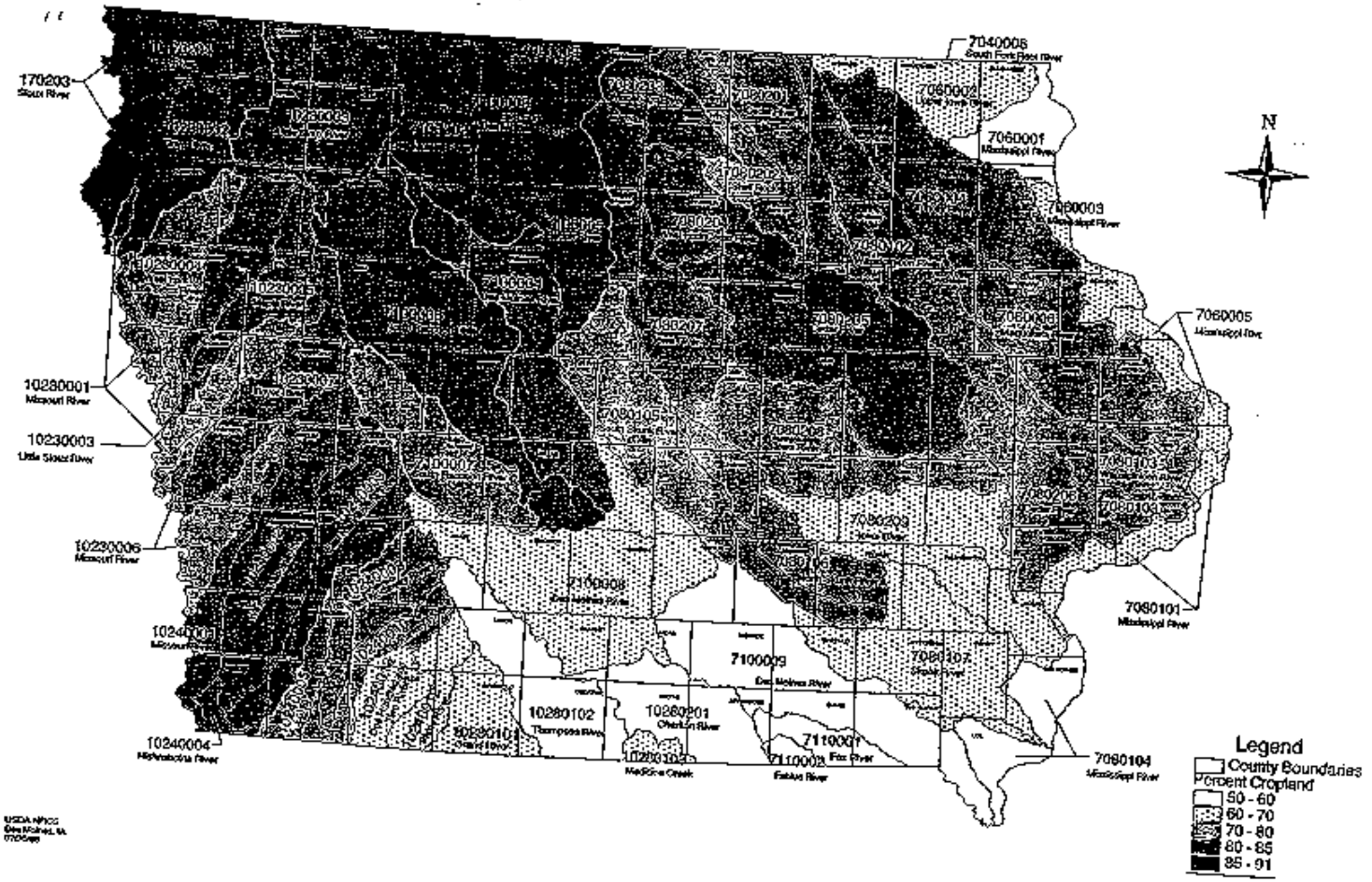
Lakes and Wetlands Assessed as Having Designated Uses Not Supported in 1996 by 8-Digit HUC



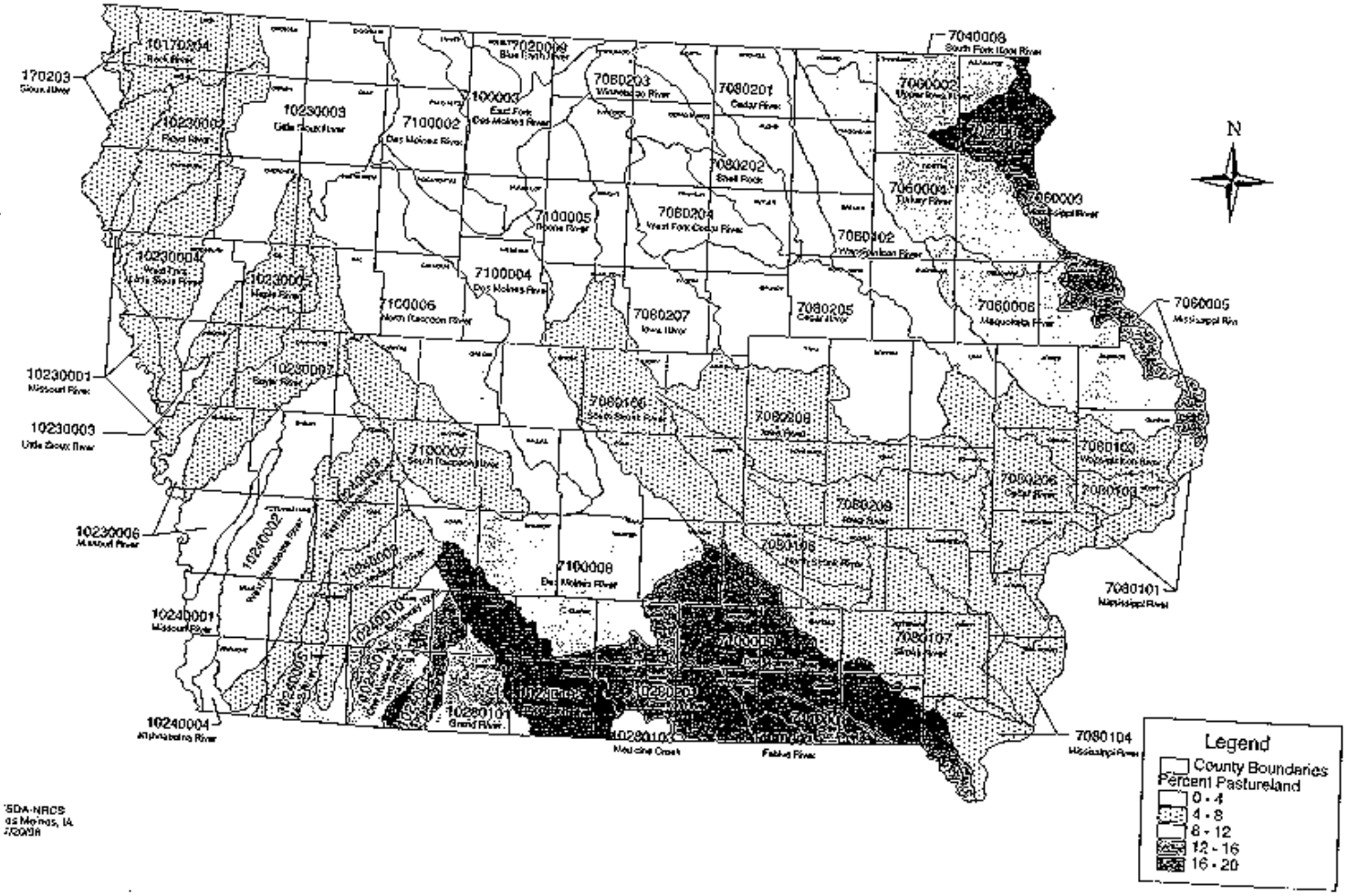

Sinkholes by 8-Digit HUC
Map 13
Unified Watershed Assessment And Prioritization
10170204
10170205
10230003
10230002
10230004
10230005
10230001
10230007
10230006
10240003
10240002
10240009
10240010
10240012
10240013
10240004
10240005
10280102
10280101
10280201
10280103
7110001
7110002
7080104
7080107
7080209
7080106
7080101
7080206
7080105
7080205
7080208
7080207
7080102
7080204
7080203
7100009
7100008
7100007
7100006
7100004
7100005
7100003
7100002
7100001
7230009


Agricultural Drainage Wells by 8-Digit HUC
Map 14
Unified Watershed Assessment And Prioritization
10170204
10170203
10230003
10230002
10230001
10230005
10230001
10230007
10230006
10240003
10240002
10240009
10240010
10240001
10240012
10240013
10240005
10280102
10280101
10280201
10280103
7110001
7110002
7080104
7080107
7100009
7080106
7080209
7080101
7080206
7080103
7080205
7080208
7080105
7100008
7100007
7100006
7100004
7100005
7100003
7100002
7080204
7080207
7080202
7080201
7080203
7020009
7060002
7060003
7060004
7080102
7060005
7060006

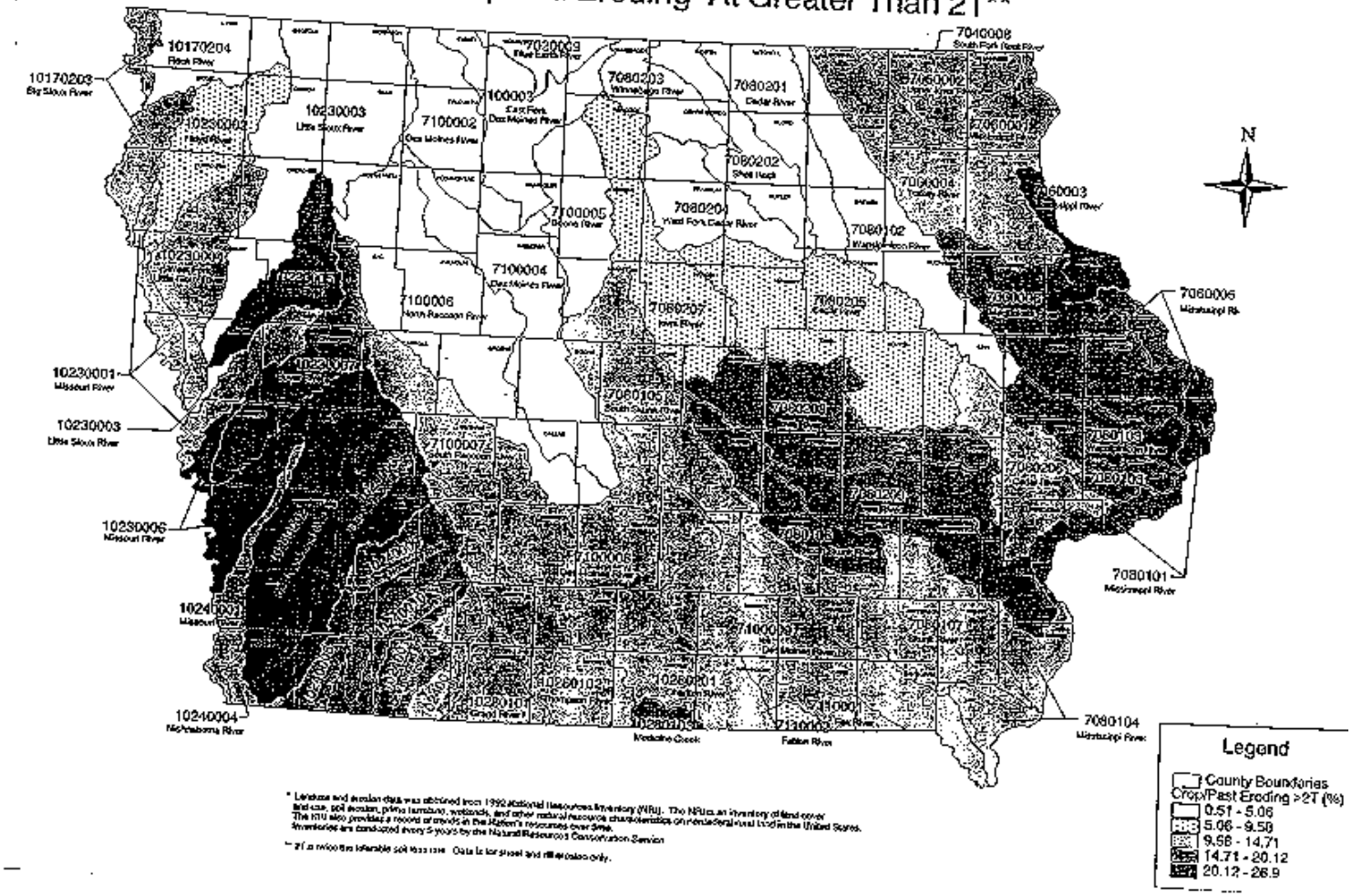
Analysis Of 1992 Ag Census Data With Iowa Eight Digit Hydrologic Unit Areas
Percent Of Hydrologic Unit Which Is Cropland



Analysis Of 1992 Ag Census Data With Iowa Eight Digit Hydrologic Unit Areas
Percent Of Hydrologic Unit Which Is Pasture

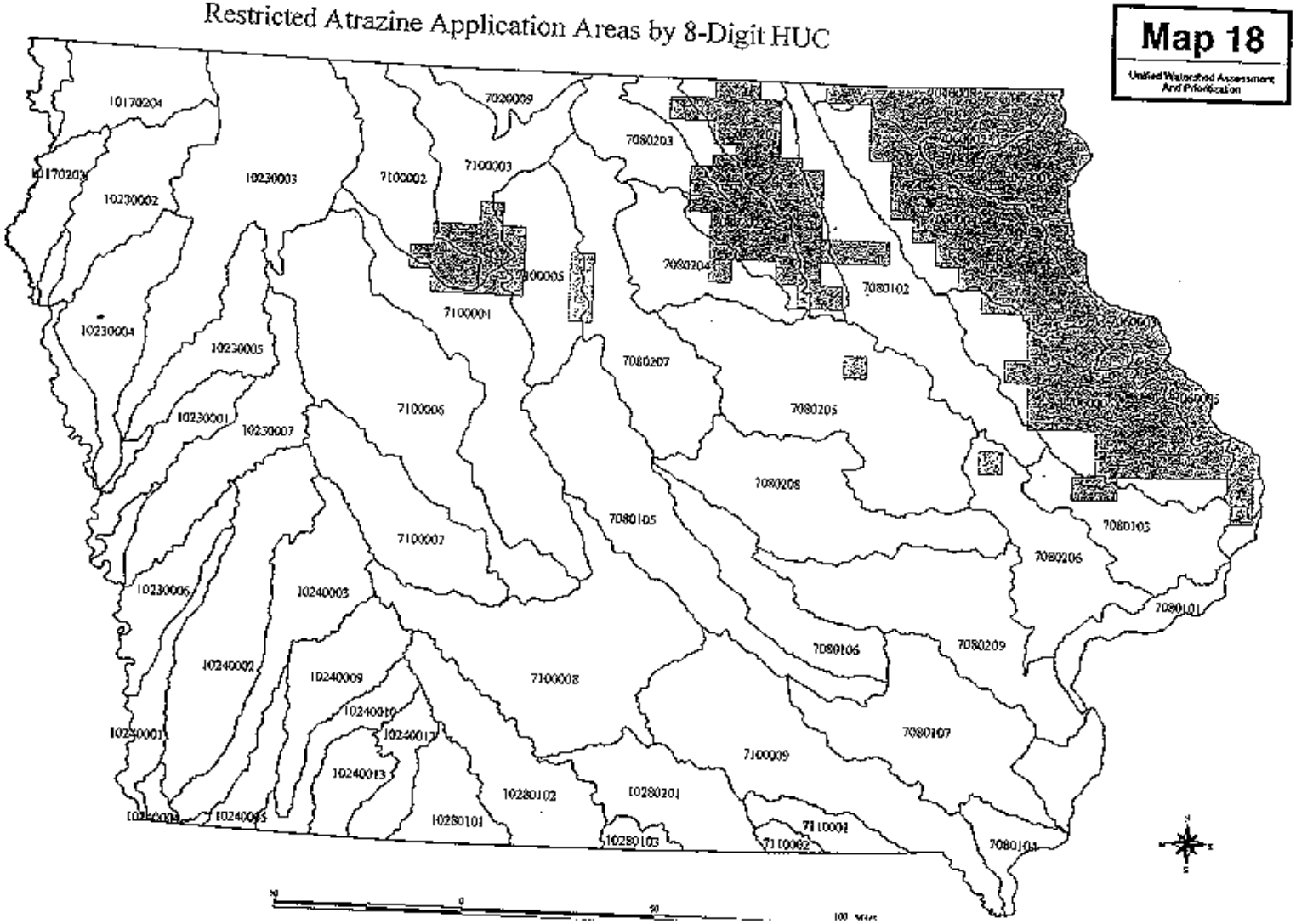


Analysis Of NRI* Data With Iowa Eight Digit Hydrologic Unit Areas
Percent Of Hydrologic Unit Which Is
Pasture & Cropland Eroding At Greater Than 2T**

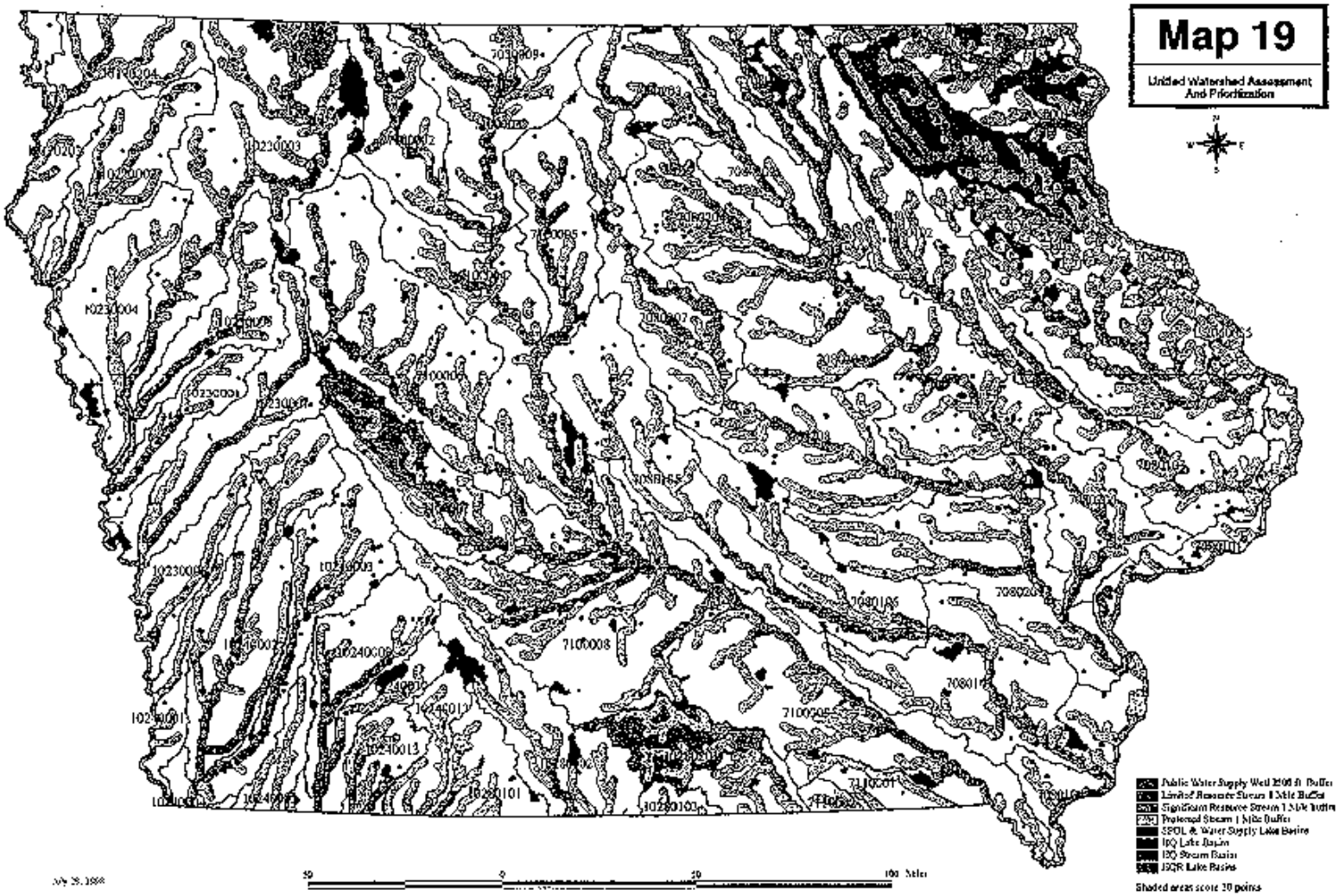


* Landuse and erosion data was obtained from 1992 National Resources Inventory (NRI). The NRI is an inventory of land cover, land use, soil erosion, prime farmland, wetlands, and other natural resource characteristics on nonfederal rural land in the United States. The NRI also provides a record of trends in the Nation's resources over time. Inventories are conducted every 5 years by the Natural Resources Conservation Service.

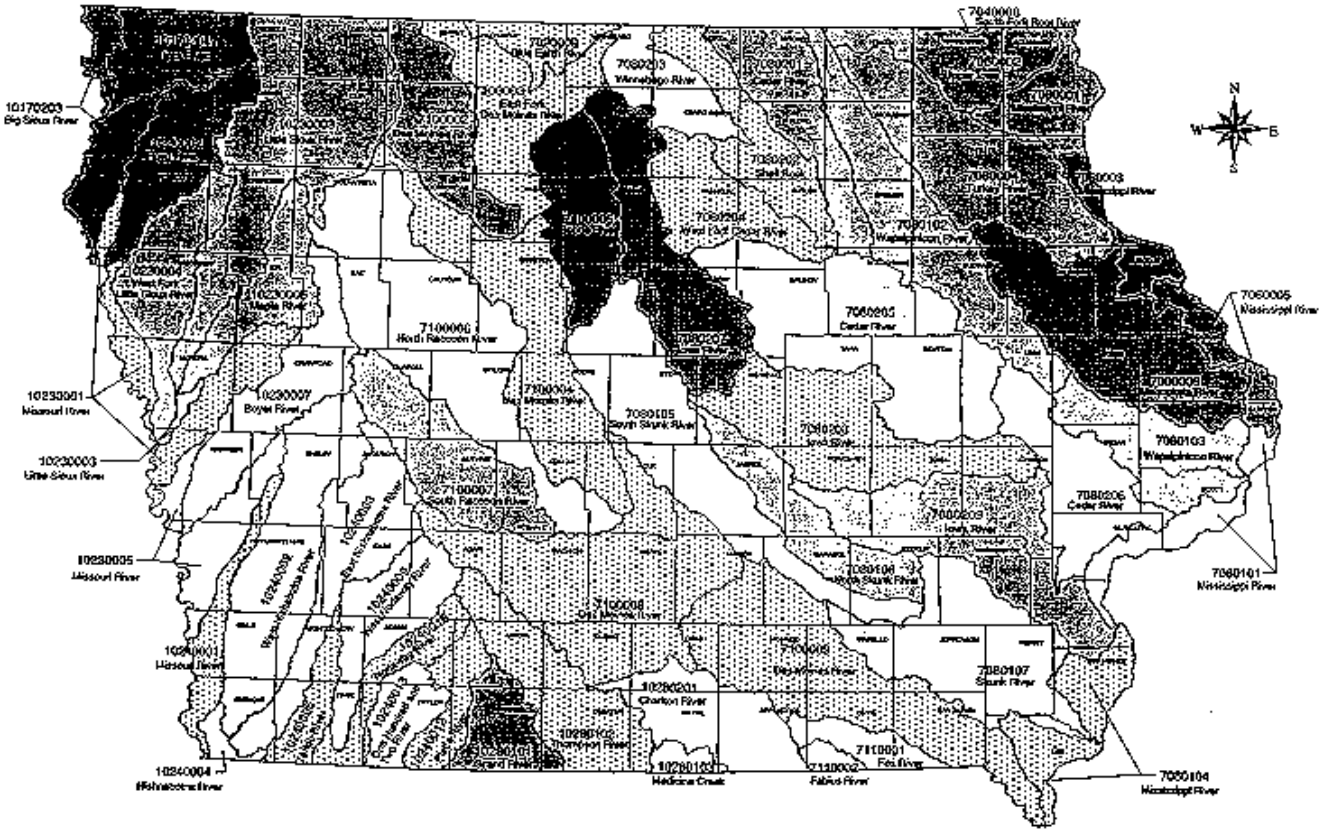
** at a weighted tolerable soil loss rate. Data is for sheet and rill erosion only.


Restricted Atrazine Application Areas by 8-Digit HUC
Map 18
Unified Watershed Assessment And Prioritization
10170204
10170203
10230003
10230002
7020009
7100003
7100002
7080203
7080204
7080102
7100004
10230004
10230005
10230001
10230007
7100006
7080207
7080205
7080208
7080105
7100007
10230006
10240003
10240002
10240009
10240010
10240012
10240013
10240004
10240005
7100008
7080106
7080209
7080103
7080206
7080101
7080107
7100009
10280102
10280201
10280101
10280103
7110001
7110002
7080104
0
50
100 Miles

Proposed Map for Scoring CRP Environmental Benefits Index, N2A, Water Quality Priority Areas

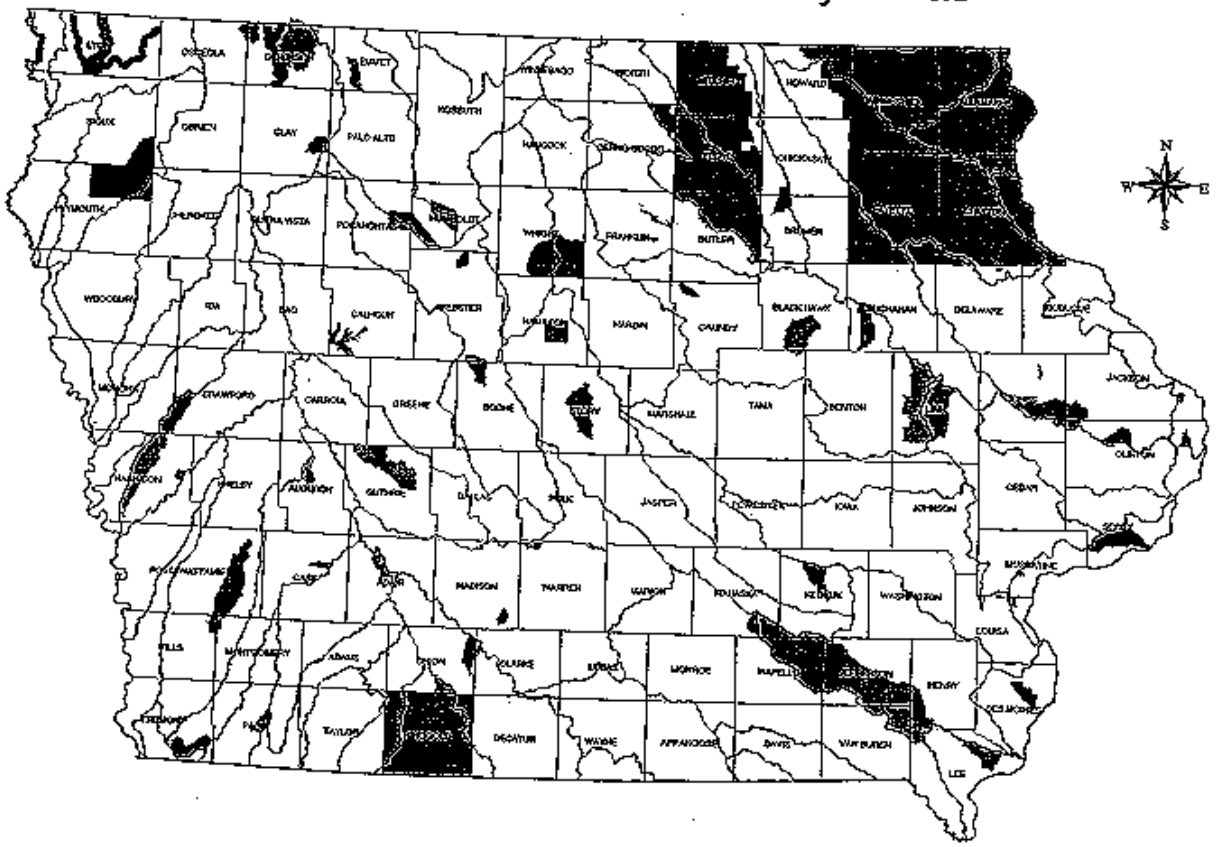


Iowa 8 Digit Hydrologic Unit Map
*Total Animal Units Per Square Mile By Hydrologic Unit



* Includes: Beef cows, cattle on feed, dairy cows, hogs, turkeys, hens/pullets, broilers and sheep. Data based on 1992 Census of Agriculture. Hog data from 1995 estimates by Dr. John Lawrence, Iowa State University Extension.
"Animal unit", as defined in chapter 65 of the Iowa Administrative Code, "means a unit of measurement used to determine the animal capacity of an animal feeding operation, based upon the product of multiplying the number of animals in each species by the following: Slaughter and feeder cattle, 1.0; Mature dairy cattle, 1.4; Butcher and breeding swine, over 55 pounds, 0.4; swine between 15 and 55 pounds, 0.1; Sheep or lambs, 0.1; Turkeys, 0.018; Broilers or layer chickens, 0.01". A value of 1.0 was assigned to beef cows.

Iowa 8 Digit Hydrologic Unit Map With 1998 EQIP Priority Areas*



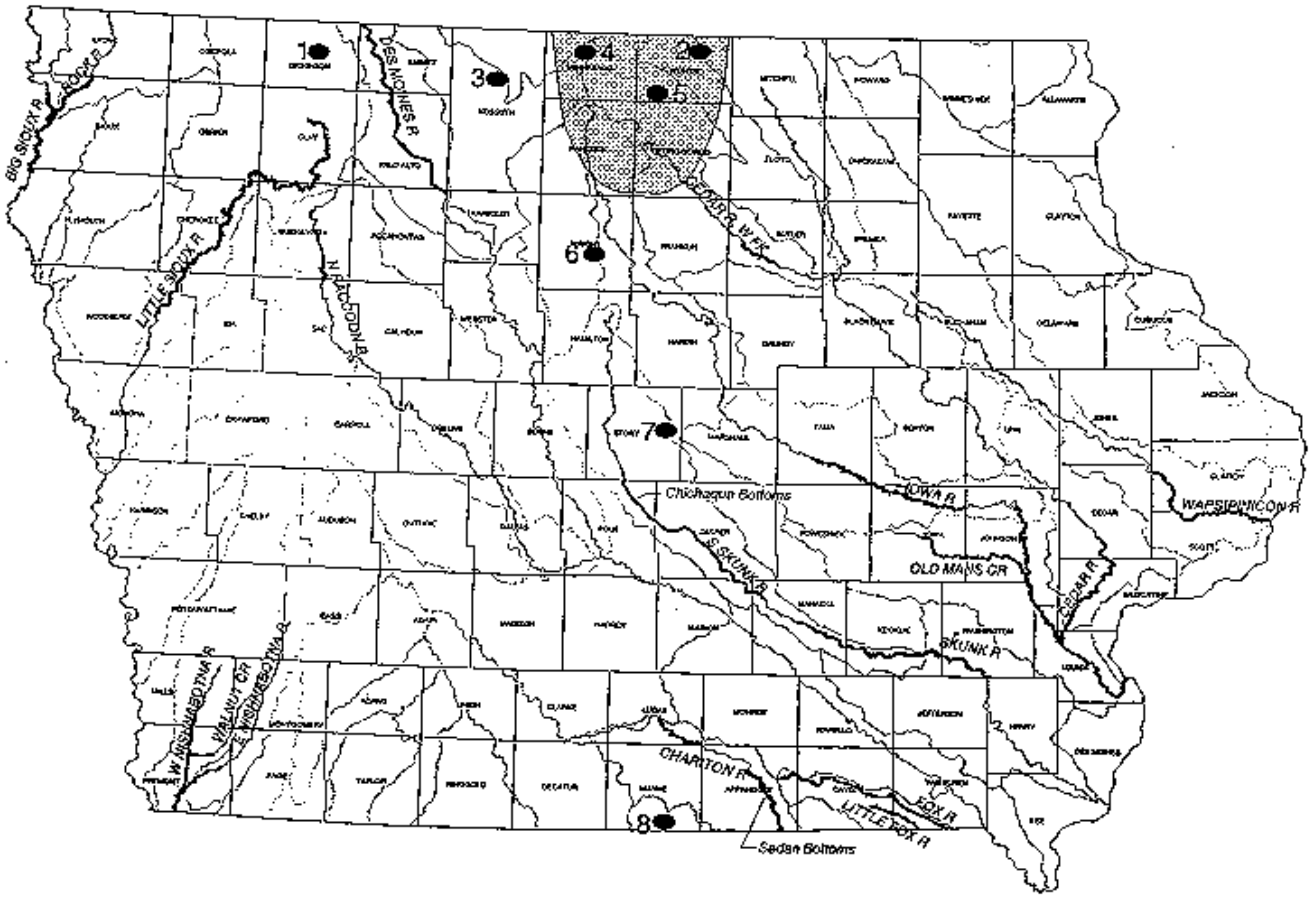
USDA/NRCS
Des Moines, IA
7/30/98

* Fifty-two priority areas within sixty-five counties have been approved for funding by the 1998 Environmental Quality Incentives Program (EQIP). This assistance will include technical assistance, financial incentives, and education programs. These priority areas reflect the efforts of local work groups who identified specific resource concerns in their counties. The vast majority of these approved areas have requested additional funding for 1998 and 2000.

Current Special & River Corridor Projects In Iowa

Map 22

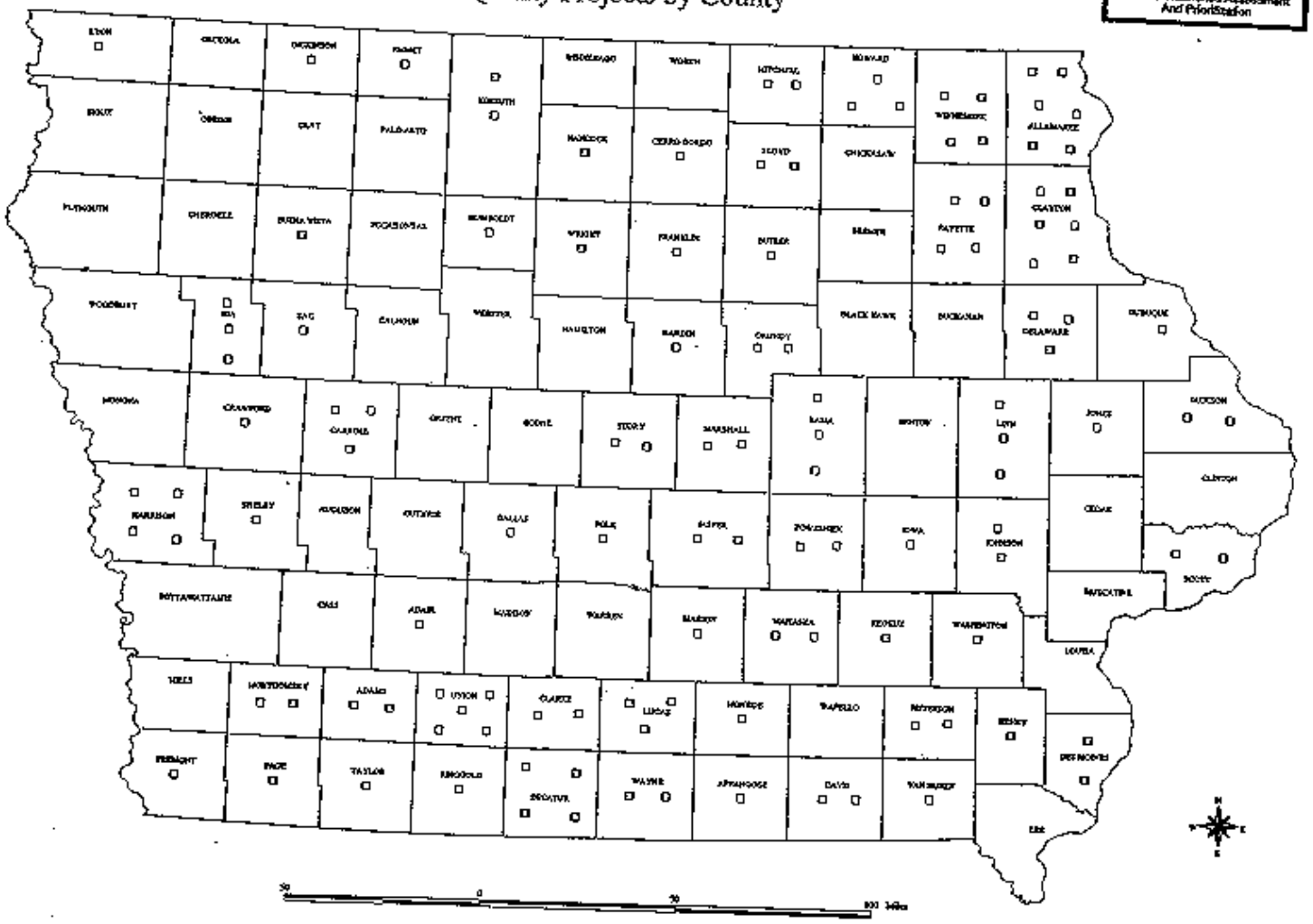
Unified Watershed Assessment And Prioritization



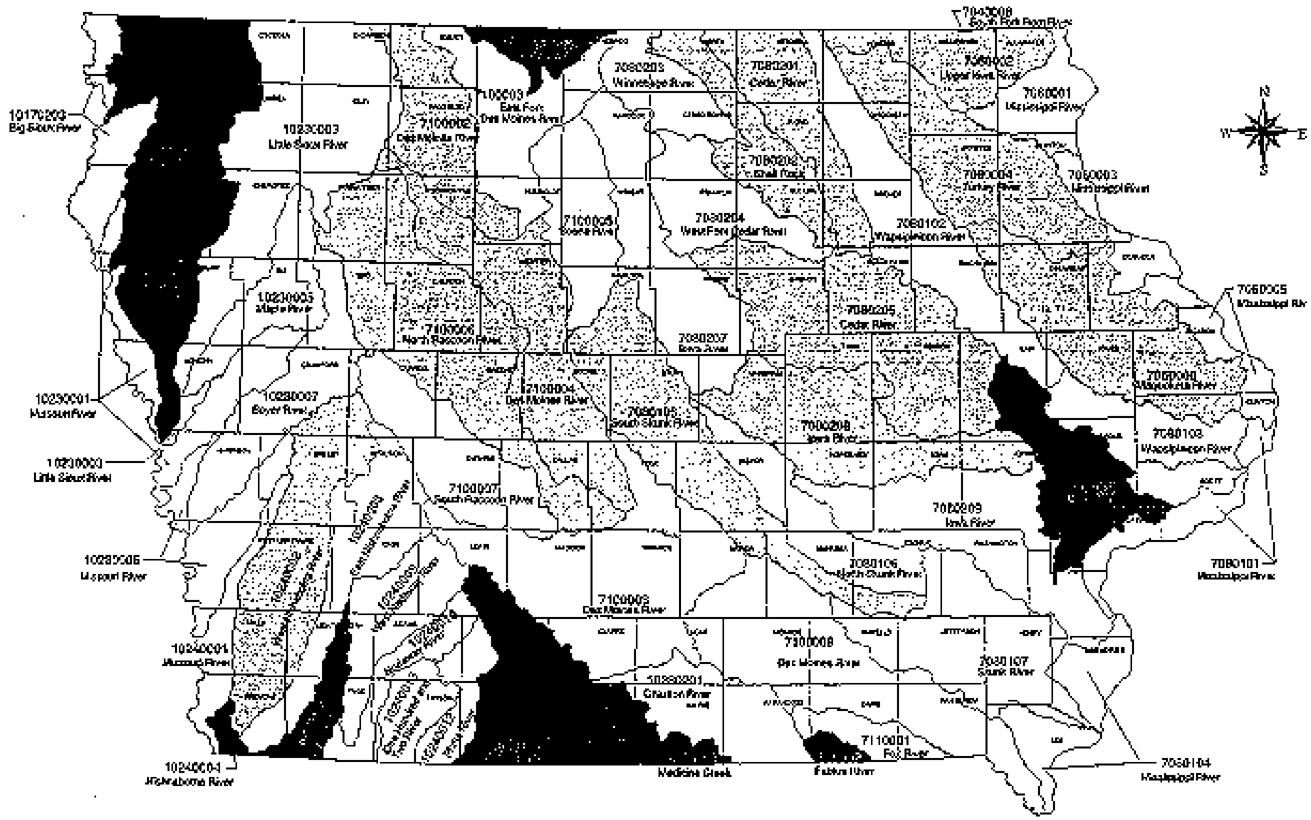
Map 23

Unified Watershed Assessment And Prioritization

Water Quality Projects by County



Priority Of Iowa's Eight-Digit Hydrologic Units



This map displays the priority of Iowa's eight-digit hydrologic units as identified in the 1998 Iowa Unified Watershed Assessment, Restoration Priorities, and Restoration Action Strategies, dated September 29, 1998.

Hydrologic units of all sizes are commonly referred to as watersheds.

Iowa lies within all or part of 56 eight-digit hydrologic units which are shown on the above map.

Waters Included in Iowa's 9/18/98 Draft 303(d) List

Numbers Refer to Waterbodies in Table